DOCUMENT RESUME

ED 086 657 SP 007 592

AUTHOR	Stone, James C.; And Others
TITLE	County-Wide Direction to Family Life Education. Evaluation Report.
INSTITUTION	Contra Costa County Dept. of Education, Pleasant Hill, Calif.
SPONS AGENCY	Bureau of Elementary and Secondary Education (DHEW/OE), Washington, D.C.
BUREAU NO	5134
PUB DATE	1 Nov 71
NOTE	320p.
EDRS PRICE	MF-$0.65 HC-$13.16
DESCRIPTORS	*Family Life Education; *Inservice Teacher Education; Personality Assessment; *Sex Education; Teacher Attitudes; Teacher Behavior; *Teacher Evaluation; *Teacher Workshops

ABSTRACT

This study evaluated five Family Life Education Workshops designed to prepare elementary and secondary school teachers in Contra Costa County, California, to offer instruction in family life education, with an emphasis on healthy sexuality. The 30-hour workshops were offered in spring and summer 1968, winter and summer 1969, and fall 1970. Evaluation of the workshops was based on responses from 515 teachers and 1,110 students. The evaluation assumed that the workshops would effect changes in knowledge, skill, personality, and attitudes in teachers. Seven instruments were developed by the evaluation team, and seven were standardized tests. Multivariate analysis of variance revealed no significant changes in the three dependent variables: knowledge, attitude, and personality. The independent variables were workshop participants vs. nonworkshop participants, urban vs. rural and elementary vs. secondary school participants, and level of sex education of the students. Analysis revealed no significant differences between urban and rural teachers and no differences between elementary and secondary school teachers. However, trained teachers perceived changes in themselves, their schools, their colleagues, and their students, which were attributable to participation in the workshops. One group of students taught by workshop participants showed significant gains in knowledge of sex education. (Implications for further research are discussed.) (BRB)

ED 086657

U S DEPARTMENT OF HEALTH.
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

EVALUATION REPORT

County-Wide Direction To Family Life Education

Project Number 5134

TITLE III

ELEMENTARY AND SECONDARY EDUCATION ACT OF 1965

* * * * * * * * * * *

JAMES C. STONE

WITH THE ASSISTANCE OF WILLIAM SCHWARZ
AND THE TECHNICAL ADVICE OF JERRY McCARN,
DOUGLAS RENFIELD, AND STEVE LAWTON

SP 007 592

NOVEMBER 1, 1971

WM. CARL THOMAS
PROJECT DIRECTOR

TABLE OF CONTENTS

Page

Introduction 1

Part I, The Spring 1968 Program 14

Summary of Evaluation 103

Part II, The Summer 1968 Program 105

Summary of Evaluation 149

Part III, The Winter 1969 Program 150

Summary of Evaluation 221

Part IV, The Summer 1969 Program 224

Summary of Evaluation 264

Part V, The Communication Skills Workshop, Fall 1970 269

Summary of Evaluation 306

Part VI, The Overall Findings 310

APPENDICES (These are bound in a separate volume)

INTRODUCTION

IN-SERVICE TRAINING PROGRAM IN FAMILY LIFE EDUCATION

A series of intensive in-service training programs was planned to actively involve teachers in the content and method of teaching family life education with an emphasis on healthy sexuality. Four significant aspects were to be emphasized through a series of workshops as follows:

1. A general orientation to acquaint teachers of all grade levels with current research in the behavioral and biological sciences relevant to human relationship and to family stability in contemporary society.

2. Small group discussion of general orientation topics.

3. The involvement of teachers in developing instructional units for use in model school programs. The Contra Costa County Recommended Program in Family Life Education for Grades K-12, developed as a part of the planning activities for this project, were used as a suggested framework for school application. It was expected that the participation of teachers in selecting content and planning the curriculum would provide the type of involvement needed to give them the competence and confidence to succeed in this new area of instruction.

4. The actual application of these planned curricula was to be the third feature of the workshop. Through cooperation of model schools and summer schools, teachers were expected to try out prepared materials, evaluate them as to their effectiveness, and modify programs in light of experiences. This try-out of materials and evaluation was considered vital to developing their confidence in this controversial instructional field.

The workshop was assumed to have four distinctive features that made it an ideal form for in-service training. These features include: the opportunity to develop something new and stimulating for daily work; the provision for broadening concepts and ideas; the opportunity to develop leadership abilities; and the flexibility for personal growth and satisfaction. Based upon these qualities, it was concluded that the workshop would be the most appropriate method for the in-service training of teachers in family life education.

Two semester hours of college credit were provided for the workshops through University of California Extension and later California State College, (Hayward), Extension. Each workshop consisted of thirty (30) hours of instruction. During the regular school year, these sessions were arranged for late afternoon, evenings and Saturdays. During the summer, the sessions were half-time for four weeks. The project provided funds to cover costs of the teaching staff and consultants, as well as the costs to a university or college of credit for the participants.

The in-service training sessions were planned for eight groups of teachers through the years 1968, 1969, and 1970. Each group was planned for approximately fifty (50) participants.

A variety of organization patterns for these in-service training sessions was used in order to provide flexibility in meeting needs of participants. The sequence of content and methodology was expected to remain reasonably constant for all groups, except as modified by evaluation procedures. In all, the training program was to provide approximately 400 trained family life education teachers for the schools of Contra Costa County.

As originally planned, the in-service program consisted of four elements: (1) general meetings for presentation of materials, (2) small group discussions to react to presentations of new concepts and materials, (3) work groups to develop classroom approaches, select and plan appropriate curriculum materials, and (4) classroom try-outs and immediate evaluation in model schools.

Themes.

The themes for the in-service program, centering on the development of healthy sexuality, were:

1. Family Life Education: Why and What
2. Teaching Children About Sex and Reproduction
3. Review of Successful Programs and Curriculum Materials in Family Life Education
4. Current Community Problems Related to Family Life Education
5. Families Without Fathers
6. Conformity and Non-Conformity: The Youth Rebellion
7. Morality and Mores
8. Normalcy and Abnormalcy in Human Sexual Behavior
9. Deviant Sexual Behavior
10. Human Maturation Pattern and Pressures Toward Precocious Social Maturity
11. Male and Female Roles in Different Subcultures
12. Drugs, Drinking and Behavior
13. Venereal Disease
14. Responsible Parenthood and the Population Explosion
15. Parent-Church-School-Community Responsibility to Strengthen the American Family

Participating teachers in the workshop were provided with a packet of reference materials, some general materials and others appropriate to particular grade level or subject fields of instruction.

Training Objectives.

The specific objectives of the in-service program were to:

1. Enable teachers to instruct from a series of articulated instructional units to a specific grade level using appropriate knowledge, understandings, and skills from many subject matter fields.

   (The instructional units developed were to provide a coordination of efforts to improve the shared use of knowledge and materials and reduce duplication of expended efforts during the three year project. They also were to establish a definite base of communication between parents, children, and teachers toward the need for family life education, and to serve as a catalyst for stimulating community concern, aid, and action by community leaders to implement family life education.)

2. Stimulate staff interest in curriculum development and train teachers for family life instruction in participating districts to adequately meet the needs of schools in Contra Costa County during the three year project.

3. Instigate model programs of instruction, adapted for local use, which would include:

    a. the employment of consultive services and related directional activities;

    b. the establishment of "spin off" pilot projects by school districts that have the initiative and competency to expand the initial program.

4. Bring about participation in family life education with parent-teacher associations, church groups, youth groups, service agencies, community service groups, public social service institutions.

Evaluation Design

An important reason why the Family Life Education program was originally funded by the U. S. Office of Education was the quality of the proposed assessment and evaluation program. The evaluation is based upon administering to the participating teachers, students, and their parents, standardized tests, inventories, and questionnaires, as well as structured interviews. The evaluation design is unique in teacher education in that it has an experimental base, i.e., consists of pre- and post-tests where two groups are compared--one group participating in the program (the experimental group) and the other group not participating in the program (the control group).

The evaluation design attempts to take into account as many facets as feasible to determine the effectiveness of the training and instructional program, as well as to provide a means by which continual improvement may be made. In order to achieve these goals it is necessary to determine to what extent the stated objectives of the program had been reached, as well as to gather pertinent data for the constant upgrading and refinement of the ongoing program. Incorporated within the design were a series of "feedbacks," both formal and informal, which provided data that were used for decision-making and continual refinement while the program was in process.

Specifically, the purpose of the evaluation design was to assess the effectiveness of the Family Life Education program by seeking the answers to questions such as:

Has the in-service training increased the teachers' knowledge, attitudes, and skills?

Has family life education (as taught by teachers who participated in the in-service training) had an effect upon the cognitive and affective domains of students?

Has family life education had an effect on the parents of pupils who receive special instruction in the family life education project?

Evaluation of Process:

The response to the first question, did teacher training train the teachers relates to evaluation of the process (training teachers) that should result in the product (changed students). The "process" question is to ask if the procedures used in the workshop are those which should be replicated in successive workshops or should they be revised or replaced. The teachers' reactions to training (the workshop) were assessed via a Q-Sort, an open-ended questionnaire, short essays related to strengths and weaknesses, as well as suggested changes that would lead to improving the program.

Evaluation of Product:

The evaluation of outcomes provides a clear picture of how well an in-service program meets its stated objectives and how the program contributed to the accomplishment of the project's overall goals. It was expected that the continuation application for the second and third years would provide evaluation of the first and second year and that the final report would provide the complete evaluation of the in-service program.

Teachers volunteering to participate in the workshops were divided into experimental (trained) and control (non-trained) groups.[1] Both groups were pre-tested and post-tested on cognitive and affective factors, as follows:

1. Knowledge of Family Life Education
2. Attitude toward Family Life Education
3. Personality characteristics

Comparable demographic data were gathered from both groups. The pre-testing was done the evening prior to the opening of each workshop for both E and C teachers and the post-testing for both E and C teachers at a single agreed on time and place after the E teachers had taught a unit (or course) on family life education. The experimental group was further dichotomized into urban-rural and elementary and secondary school teachers. A random sample of the experimental teachers was followed the semester after their period of special instruction. Their pupils were post-tested on their knowledge and attitude toward family life education. Parents of pupils taught by the trained teachers were queried to determine if they noted changes in the attitude or behavior of their children which could be reasonably related to the special instruction the children received in family life education. An important aspect of the evaluation was the opportunity for replication of the study through application of the measures with successive groups of trainees. In all, four workshops were studied, spring and summer, 1968, winter and summer, 1969. The complete evaluation design is shown in Table 1.

---

[1] Criteria used in recruiting and selecting the trainees appears in Appendix A.

Evaluation Instruments: The following instruments were administered:

1. Demographic Questionnaire. The Demographic Questionnaire, which was constructed by the evaluation team, consists of twenty-four items, each with multiple-choice response categories, designed to elicit information about the personal background, academic and professional training, and teaching experience of the subjects. A copy of the Demographic Questionnaire, and of the other instruments used in the evaluation, is included in Appendix B of this Report.

2. Sex Knowledge Inventory (SKI). The SKI (Form X - Adults, 1967 Revision) is a standardized knowledge test of eighty questions, each followed by five answer choices of which only one is adjudged to be correct. The inventory yields a single score for each individual. Topics related to sex and sexual adjustments, the reproductive systems, venereal diseases, and the vocabulary pertaining to these are covered in the inventory.

   The reliability for this instrument has been computed to be .87 using the Kuder-Richardson coefficient of reliability. Using the Spearman-Brown coefficient of reliability, the nature of the topics covered and practicality, this instrument was deemed objective, pertinent, and reliable for the purpose of assessing the knowledge level of the teachers.

3. Omnibus Personality Inventory. The Omnibus Personality Inventory (OPI), Form Fy, is an attitude inventory consisting of fourteen scales and an intellectual disposition category designed to assess selected characteristics of human behavior, chiefly in the areas of normal ego-functioning and intellectual activity. The OPI was developed out of a desire to understand, improve, and document the effects of a college education. Almost all dimensions included in the Inventory were chosen either for their general importance in understanding the differentiating among students in an educational context or for their particular relevance to academic activity. In the development of the OPI, consideration was given to some of the major attitudes, values, and interests which would, with the context of a general eclectic set of principles, shed meaningful light on the variations among students and student bodies and on changes in some of the measured characteristics. Attention was given to the dynamics of both academic and social involvement and to the important aspects of human behavior which should or would be influenced through a variety of on-campus experiences. The major purposes of the OPI were

TABLE 1 EVALUATION DESIGN CHART

	PROCESS MEASURES	PRODUCT MEASURES		
		COGNITIVE DOMAIN	AFFECTIVE DOMAIN	DEMOGRAPHIC AFFECTS
Students Grades 5-6 7-8 10-12	(1) Opinionnaire at end of instruction.	(1) Post-test (FLKI)	(1) Post-test (MPCL) (2) End of course opinionnaire	
Teachers	(1) End of course opinionnaire.	(1) Pre-test - post-test (SKI)	(1) Pre-test - Post-test (OPI and FLAI) (2) Q-sort at end of workshop.	(1) Demographic questionnaire. (2) Number of teachers trained.
Parents		(1) End of course questionnaire re knowledge, attitude, and behavior of students.	(1) Focused interviews (post)	

to provide a meaningful, differentiating description of students and a means of assessing change rather than a device or instrument for testing a specific theory of personality.

As used in numerous studies, the OPI has served three main purposes:

a. to furnish criterion scores, as independent variables, for the identification and selection of "types" of students,

b. to provide a basis for differentiating among student types and groups, and

c. to provide a basis for measuring change over one or more years in a number of non-intellective characteristics.

Since most of the scales were constructed for or included in the Inventory because of their actual or assumed relevance to behavior in an academic setting, some of these scales serve as important variables by which to assess development and change presumably related to college experiences. Thus, the same scales that permit categorization of students into "types" and subgroups may serve as the means to measure degree of change over time.

In order to understand the use and interpretation of the OPI in the context of this investigation, a brief description of the fourteen scales and the Intellectual Disposition Categories is presented.

1. Thinking Introversion (TI) - Persons scoring high on this measure are characterized by a liking for reflective thought and academic activities and express interests in a broad range of ideas found in a variety of areas, such as literature, art, and philosophy. Their thinking is less dominated by immediate conditions and situations, or by commonly accepted ideas, than low scorers.

2. Theoretical Orientation (TO) - This scale measures an interest in, or orientation to, a more restricted range of ideas than is true of TI. High scorers are generally logical, rational, and critical in their approach to problems.

3. Estheticism (Es) - High scorers endorse statements indicating diverse interests in artistic matters and activities. The content of the statements in this scale extend beyond painting, sculpture, and music, and includes interests in literature and dramatics.

4. Complexity (Co) - This measure reflects an experimental and flexible orientation rather than a fixed way of viewing and organizing phenomena. High scorers are tolerant of ambiguities and uncertainties; they are fond of novel situations and ideas.

5. Autonomy (Au) - The characteristic measured by this scale is composed of liberal, non-authoritarian thinking and a need for independence. High scorers show a tendency to be independent of authority as traditionally imposed through social institutions. They are nonjudgmental, realistic, and intellectually liberal.

6. Religious Orientation (RO) - High scorers are skeptical of conventional religious beliefs and practices and tend to reject most of them, especially those that are orthodox or fundamentalistic in nature.

7. Social Extroversion (SE) - This measure reflects a preferred style relating to people in a social context. High scorers display a strong interest in being with people, and they seek social activities and gain satisfaction from them.

8. Impulse Expression (IE) - This scale assesses a general readiness to express impulses and to seek gratification either in conscious thought or in overt action. High scorers have an active imagination, value sensual reactions and feelings.

9. Personal Integration (PI) - The high scorer admits to few attitudes and behaviors that characterize socially alienated or emotionally disturbed persons.

10. Anxiety Level (AL) - High scorers deny that they have feelings or symptoms of anxiety, and do not admit to being nervous or worried. Low scorers may experience some difficulty in adjusting to their social environment, and they tend to have a poor opinion of themselves.

11. Altruism (Am) - The high scorer is an affiliative person and trusting and ethical in his relations with others. He has a strong concern for the feelings and welfare of people he meets.

12. Practical Outlook (PO) - The high scorer on this measure is interested in practical, applied activities and tends to value material possessions and concrete accomplishments. He is more concerned with the utility of things.

13. Masculinity-Feminity (MF) - This scale assesses some of the differences in attitudes and interests between college men and women. High scorers (masculine) deny interests in esthetic matters and they also tend to be somewhat less socially inclined than low scorers and more interested in scientific matters.

14. Response Bias (RB) - This measure, composed chiefly of items seemingly unrelated to the concept, represents an approach to assessing the student's test-taking attitude. High scorers trying to make a good impression and low scorers a bad impression.

The Intellectual Disposition Categories (IDC) is composed of six of the OPI scales and is an attempt to categorize individuals in terms of an intellectual, scholarly disposition. The four scales of TI, TO, Es, and Co serve as primary criteria and Au and RO serve as supplementary criteria in categorizing individuals at certain points on a "continuum" of intellectual disposition. Specifically, the subjects are placed in one of eight IDC's. The composite measure of intellectual disposition identifies both the type and extent of commitment to general learning and intellectual activity, while permitting a designation of the emphasis or forms of the individual's disposition. For example, a person in IDC-5 can best be defined as approximately average on the measured disposition toward intellectual involvement; those obtaining an IDC-8 tend to be quite practical in orientation and unintellectual; and those obtaining an IDC-1 are assumed to be highly disposed intellectually with broad, intrinsic interests in intellectual pursuits.

The reliability and validity of the OPI have been well substantiated. Using test-retest coefficients, reliabilities above .85 and .88 have been computed for both the OPI scales and the IDC classification. The validity of the OPI and the IDC's is based upon correlations with other well-established instruments and a variety of data obtained from questionnaires and interviews.

Even though the OPI has been used primarily in relation to college students, it has been used to study the reactions of student teachers and teachers in-service to given programs of special training. The OPI has been found to be a useful instrument in assessing the influence of an educational training program. For the purposes of this study, the OPI is used to assess the intellectual and psychological changes related to participating in the in-service program in family life education. In order to examine the effect of the in-service program, each of the fourteen scales was examined independently along with the IDC scores of the participants.

4. Family Life Attitude Inventory (FLAI) - The FLAI was developed by the evaluation team to assess the feelings and beliefs of teachers about students, the school, the family, the community, and teaching as these are related to family life education. It is a 44 item attitude inventory based upon a summated rating scale (also known as a Likert-type-scale). A preliminary pilot study using the FLAI revealed a Kuder-Richardson coefficient of reliability of .70; improvement upon the instrument since that time has been made but no new reliability has been established. This instrument was expected to provide information from the teachers about their attitude toward family life education.

5. The Family Life Education Q-Sort (FLEQ) - This was a 56 item Q-sort developed by the evaluation team for the specific purpose of determining the effectiveness of the workshop--its goals, curriculum, methods, and outcomes. Based upon a continuum from "Agree Very Strongly" to "Disagree Very Strongly," the Likert-type response categories of the Q-Sort provide valuable information on the "strong"

as well as the "weak" features of the training program as perceived by the participating teachers. The Q-Sort data were used to evaluate the training program and to provide a guide by which it could be improved. Participants performed the Q-Sort at the end of the training period.

6. Family Life Knowledge Inventory (FLKI) - The FLKI was developed by a committee composed of teachers, administrators, the evaluation team, and the director of the Family Life Education project. Three forms of the Inventory were constructed to include questions specifically formulated for their appropriateness for testing the knowledge of students at various grade levels: 5-6, 7-8, and 10-12. Each form of the Inventory contains 41 to 44 questions of the objective, multiple choice answer type. Each question asks for a choice of the best one from among four answers. All are questions testing factual knowledge of the sort transmitted in family life education curricula and units taught in schools and at various grade levels throughout Contra Costa County.

7. Mooney Problem Check List (MPCL) - The MPCL is a standardized inventory for determining personal problems. The following is a description of the problem areas covered:

   High School Form - Health and Physical Development (HPD); Finances, Living Conditions, and Employment (CPE); Social and Recreational Activities (SRA); Social - Psychological Relations (SPR); Personal - Psychological Relations (PPR); Courtship, Sex and Marriage (CSM); Home and Family (HF); Morals and Religion (MR); Adjustment to School Work (ASW); the Future: Vocational and Educational (FVE); and Curriculum and Teaching Procedure (CTP).

   Junior High Form - Health and Physical Development (HPD); School (S); Home and Family (HF); Money, Work, the Future (MWF); Boy and Girl Relations (BG); Relations to People in General (PG); and Self-Centered Concerns (SC).

   This instrument will provide information pertinent to students' feelings and beliefs about certain problems that are included in the family life education program.

8. Family Life Education Student Questionnaire (FLESQ) - The FLESQ was developed by the evaluation team to ascertain students' reaction to their participation in a course or unit of instruction in family life education. It contains ten multiple-choice items and two open-ended items.

9. Family Life Education Parent Questionnaire (FLEPQ) - The FLEPQ was developed by the evaluation team to ascertain parents' reactions to their childrens' participation in a course or unit of instruction in family life education. It contains open-ended items asking for observations of childrens' behavior in the home.

HYPOTHESIS

When the evaluation design for the training program in family life education was conceived, five major hypotheses concerning the investigation were postulated:

1. (a) There will be no significant pre-test differences between the experimental (trained) and control (non-trained) groups of teachers in demographic background and in the measurement of the following three variables: (1) knowledge of family life education including the development of healthy sexuality, (2) attitude toward family life education, and (3) personality characteristics.

Part (a) of this first hypothesis is based on the assumption that, being members of the teaching profession, the workshop participants will share a common commitment, common set of values and common interests. As teachers, they will have had a generally similar background of educational and cultural experiences and have been recruited to teaching from the same socio-economic strata of society. They will tend to share the same overall views on problems and issues facing society and the school, including that of the teaching of sex education, and they will have been selected as teacher candidates in college and then as teachers in school districts on the basis of personality characteristics suitable for working with children and youth. Thus, any differences found in the effectiveness with which the experimental (trained) group teaches family life education, including healthy sexuality, will be associated with the special training they received rather than backgrounds or their personality characteristics.

(b) There will be significant pre-test differences among urban and rural teachers on the above three variables.

Part (b) of this first hypothesis is based on the assumption that teachers who live in rural communities tend to react to new ideas and innovations in a more conservative manner than those from urban areas where there is more social interaction and communication. Thus we can expect that a new development of the school curriculum to an innovative, sensitive, and controversial area like sex education will bring forth reactions from teachers that will be different between those from conservative (rural) communities vs. those from more liberal (urban) communities.

(c) There will be significant pre-test differences among elementary and secondary school teachers on the above three variables.

Part (c) of the first hypothesis is based on the assumption that people select themselves into elementary or secondary teaching on the basis of their inclinations with respect to subject matter and human development. Elementary teachers generally are child-centered in their teaching interests while secondary teachers have been found to be more subject matter centered; elementary teachers generally are concerned with the whole child, secondary teachers with the knowledge gained by students in a particular discipline.

2. (a) A second hypothesis is that the impact on teacher-participants of a specially organized and structured workshop in family life education will be such as to make significant differences in their knowledge of, and attitude towards, family life education and in their personality characteristics.

Part (a) of this second hypothesis is based on the assumption that a specially organized and "packaged" learning experience which is focused on a politically-charged, personally and emotionally involved topic like human sexuality will cause teachers to change their attitudes and that these changes will be reflected in their classroom behavior. Further it is assumed that the opportunity to participate in such a learning experience through a workshop format which emphasizes involvement and confrontation also will induce such changes, and that the duration of such an intense experience will be sufficient to bring about changes in the personality characteristics of the teachers. In addition, it is assumed tha there will be sufficient exposure to new knowledge about family life education, with emphasis on human sexuality, to account for differences between the workshop group and those teaching family life education who were not exposed to the workshop. Hence, instruments were chosen to check the three variables (knowledge of and attitude toward family life education and personality characteristics) and an experimental design formulated to test the experimental (trained) group in contrast with a comparable control (untrained) group of teachers.

(b) The post-test data will again show significant differences between elementary and secondary school teachers.

Part (b) of this second hypothesis is based on the same assumption about urban and rural teachers as described under hypothesis 1 (b), plus the additional assumption that any differences which existed prior to training will continue to exist after training, these differences in amount and kind being similarly effected by the impact of the learning experience (the workshop).

(c) The post-test will again show significant differences between elementary and secondary school teachers.

Part (c) of this second hypothesis is based on the same assumption about elementary and secondary teachers described under hypothesis 1 (c), plus the assumption previously stated that such initial differences will be similarly effected by the impact of the learning experience (the workshop).

3. A third hypothesis is that teachers given the special training will teach family life education more effectively than those who are not trained, and that the students of the teachers given the special training would show the results of it in their performance on a test of knowledge about,and attitude toward, family life education.

This third hypothesis is based on the assumption that, in the process of gaining new knowledge about and changes in attitudes toward family life education, the teachers also will acquire knowledge of new materials, resources and new strategies, new teaching styles and new methods appropriate for the inculcation of family life education concepts in the classroom. Thus armed, the trained teachers would be expected to show the results of these acquisitions in their teaching behavior to such a degree that their greater expertise would be reflected in their pupils when pre- and post-test data are gathered about them.

4. A fourth hypothesis is that parents of pupils taught family life education by the specially trained teachers will be aware of change in the knowledge and attitude of their children toward family life education.

The fourth hypothesis is based on the assumption that the results of the teaching of a unit of instruction so closely geared to the developmental tasks of adolescents will cause ripples and waves in the life of the pupils--in both their school and out of school activities and interests--such that their parents would be aware of and knowledgeable about the new instructional program of family life education and capable of recalling specific instances and examples of changes in the knowledge attitudes and behavior of their children which they can relate directly to the family life education instruction given by the specially trained teachers. A parallel assumption is that this restropective view by parents will represent an accurate appraisal of the results of the teaching of family life education.

Analysis of Data:

The basic unit for analysis of quantitative data will be multivariate analysis of variance. This method facilitates a simultaneous test for equal means for a number of groups on some set of variables. Technically, the groups are referred to as the "levels of a factor," and the set of variable means for a particular group as the "vector of means." Hence, the most common hypotheses under test will be that the mean vectors of all levels of a factor are equal. This method is superior to the more widely used univariate analysis of variance since it can take into account the correlation between variables. Nevertheless, univariate tests will be made when particular characteristics of a test profile are of particular importance, and univariate levels of significance will be reported.

Another multivariate statistical technique will be utilized for the analysis of Q-sort for questionnaire data which, unlike standardized tests, do not automatically yield a handful of normed scores. A form of factor analysis, the BC-TRY Cluster Analysis, will be used to discover a set of dimensions of participant attitudes as measured by the instruments, and sets of scores will be computed for all program participants. These scores, in turn, will function as input for multivariate analysis of variance, thus enabling the effective comparison of groups.

Chi-square tests for the equality of the probability distributions of the control and experimental groups also will be used.

THE EVALUATION REPORT

This Evaluation Report is divided into six parts, as follows:

Part I, Spring, 1968
Part II, Summer, 1968
Part III, Winter, 1969
Part IV, Summer, 1969
Part V, Fall, 1970
Part VI, The Overall Findings

The Appendices are bound in a separate, companion volume.

PART I

THE SPRING 1968 PROGRAM

THE SPRING, 1968, WORKSHOP IN FAMILY LIFE EDUCATION

The Evaluation Design

The subjects were the 114 teachers who were selected to participate in the Spring, 1968 workshop. The independent variables were: (1) Type of Community, (2) Type of School, and (3) Experimental Condition. The variable, Type of Community, was dichotomized into "high" and "low" populated areas and was termed "urban" and "rural." The terms "urban" and "rural" are not completely appropriate, but for sake of more meaningful descriptions, this wording was used. The variable, Type of School, was divided into "elementary school teachers" (grades K-6) and "secondary school teachers" (grades 7-12). The third independent variable, Experimental Condition, enabled the evaluation team to establish experimental and control groups. The 114 teachers were randomly assigned to either the experimental or the control group.

When broken down into the various subgroups, the three independent variables yielded eight different groups:

(1) Urban - Elementary - Experimental
(2) Urban - Elementary - Control
(3) Urban - Secondary - Experimental
(4) Urban - Secondary - Control
(5) Rural - Elementary - Experimental
(6) Rural - Elementary - Control
(7) Rural - Secondary - Experimental
(8) Rural - Secondary - Control

The dependent variables considered were: (1) knowledge of family life education, particularly of healthy sexuality, (2) attitude toward family life education, and (3) personality characteristics. Measures on these dependent variables were taken by pre- and post-testing according to the design shown in Table 2.

For the purposes of evaluating the Spring, 1968, in-service training program, three major hypotheses were formulated for testing:

1. There are no significant differences on any of the demographic variables assessed by the Demographic Questionnaire (e.g., personal background, academic and professional training, teaching experience, etc.) between (a) teachers in the experimental group and teachers in the control group, (b) urban teachers and rural teachers, and (c) elementary school teachers and secondary school teachers.

2. There are no significant differences between the comparison groups enumerated in the first hypothesis on pretest measures of (a) knowledge of family life, particularly healthy sexuality (operationally defined as a score on the Sex Knowledge Inventory, Form X - Adults) and, (b) personality characteristics (operationally defined as a set of scores on the 14 scales of the Omnibus Personality Inventory, Form Fy).

TABLE 2. SCHEMATIC REPRESENTATION OF THE EXPERIMENTAL DESIGN

Pre-Test . . . . 9 months . . . . Post-Test															
Urban				Rural				Urban				Rural			
Elementary		Secondary		Elementary		Secondary		Elementary		Secondary		Elementary		Secondary	
Exp.	Cont.	Exp.	Cont.	Exp.	Cont.	Exp.	Cont.	Exp.	Cont.	Exp.	Cont.	Exp.	Cont.	Exp.	Cont.

3. There are significant differences between the control and experimental groups on post-test measures of the dependent variables enumerated in the second hypothesis due to the main effect of the training received by teachers in the experimental group.

Acceptance of these three hypotheses, on the basis of evidence resulting from statistical analysis of the data, would imply that the significant differences between the control and experimental groups on post-test measures of the dependent variables are not the consequence of a priori differences among teachers in these two groups but the result of the impact which the in-service training program in family life education had upon the teachers who participated in it. The instruments used to obtain data for the evaluation are described in the Introduction.

The Evaluation Procedures

Initially, all of the teachers who served as subjects for the evaluation were assembled and tested at the same time. They were not informed beforehand whether they would be assigned to the experimental or to the control group. They were asked to respond to the following instruments: (1) the Demographic Questionnaire, (2) the Sex Knowledge Inventory, and (3) the Omnibus Personality Inventory.

Following the administration of these tests, the predetermined control group was dismissed and the experimental group participated in the training program in family life education. At the conclusion of the workshop, those in the experimental group performed the Family Life Education Q-Sort (FLEQ).

Approximately nine months after the conclusion of the program, at the end of a semester during which the subjects taught units or courses, the teachers in both the control and experimental groups were reassembled and readministered the test battery enumerated above, plus the Family Life Attitude Inventory (FLAI).

The Sample

The personal background, academic and professional training, teaching experience, and other demographic characteristics of the 114 subjects are indicated by the data reported in Tables 3 - 17, which were obtained from the subjects' responses to the Demographic Questionnaire. Examination of these tables reveals the high degree of homogeniety of demographic characteristics among the eight comparison groups of subjects and the likelihood that the teachers in the experimental and control groups were similar to (not significantly different from) one another in these characteristics before those in the experimental group underwent the training program.

Analysis of the Demographic Data

Tables 3A - 17A, following, report the results of Chi-square tests of homogeniety on 13 of the 14 demographic variables for the experimental and control groups of subjects tested for evaluation of the Spring, 1968, in-service training program. These tests of the equality of the probability distribution of demographic characteristics between the two comparison groups were controlled at the .05 level of significance. At this level of probability, none of the differences in demographic characteristics indicated in Tables 3 - 17 proved to be statistically significant. Hence, any differences in post-test measures of dependent variables taken on the two groups would be attributable to training effects and not to a priori differences in demographic characteristics.

TABLE 3. AGE OF THE TEACHERS IN THE EIGHT GROUPS.

Group	Age-Span								Total
	20-30		31-40		41-50		51-60		
	#	%	#	%	#	%	#	%	
Urban-Elementary-Experimental	3	25	2	17	6	50	1	8	12
Urban-Elementary-Control	2	11	7	39	2	11	7	39	18
Urban-Secondary-Experimental	8	33	9	38	5	21	2	8	24
Urban-Secondary-Control	2	20	3	30	4	40	1	10	10
Rural-Elementary-Experimental	4	29	4	29	5	35	1	7	14
Rural-Elementary-Control	2	33	2	33	1	17	1	17	6
Rural-Secondary-Experimental	6	30	8	40	6	30	0	0	20
Rural-Secondary-Control	5	50	3	30	2	20	0	0	10
Totals	32	28	38	33	31	28	13	11	114

Table 3A

Test for Differences in the Distributions of Age

Group	Age Span								
	20-30		31-40		41-50		51-60		Total
	#	%	#	%	#	%	#	%	
Control	11	25	15	34	9	20.5	9	20.5	44
Experimental	21	30	23	33	22	31.4	4	5.7	70
Total	32	28	38	33	31	28	13	11	114

$X^2 = 6.69$ Not Significant

$(X_3^2 (.95) = 7.815)$

TABLE 4. NUMBER AND PERCENT OF MALE AND FEMALE TEACHERS IN THE EIGHT GROUPS.

Group	Men		Women		Total
	Number	Percent	Number	Percent	
Urban-Elementary-Experimental	4	33	8	67	12
Urban-Elementary-Control	2	11	16	89	18
Urban-Secondary-Experimental	13	54	11	46	29
Urban-Secondary-Control	5	50	5	50	10
Rural-Elementary-Experimental	1	7	13	93	14
Rural-Elementary-Control	2	33	4	67	6
Rural-Secondary-Experimental	9	45	11	55	20
Rural-Secondary-Control	3	30	7	70	10
Total	39		75		114
Average		34		66	

TABLE 5 MARITAL STATUS OF THE TEACHERS IN THE EIGHT GROUPS

Group	Married		Single		Divorced		Separated		Widowed		Total
	#	%	#	%	#	%	#	%	#	%	
Urban-Elementary-Experimental	10	83.4	1	8.3	1	8.3	0	0	0	0	12
Urban-Elementary-Control	13	72	3	17	2	11	0	0	0	0	18
Urban-Secondary-Experimental	20	83	3	13	0	0	1	4	0	0	24
Urban-Secondary-Control	8	80	1	10	0	0	0	0	1	10	10
Rural-Elementary-Experimental	10	72	3	21	0	0	0	0	1	7	14
Rural-Elementary-Control	5	83	1	17	0	0	0	0	0	0	6
Rural-Secondary-Experimental	14	70	4	20	2	10	0	0	0	0	20
Rural-Secondary-Control	9	90	1	10	0	0	0	0	0	0	10
Totals	89	77.4	17	15	5	4.6	1	1	2	2	114

Table 4A

Test for Differences in the Sex Distributions

Group	Sex				
	Men		Women		Total
	#	%	#	%	
Control	12	27	32	73	44
Experimental	27	39	43	61	70
Total	39	34	75	66	114

$X^2 = 1.58$ Not Significant

$\left[X_1^2\,(.95) = 3.841\right]$

Table 5A

Test for Differences in Marital Status

Group	Marital Status						
	Married		Single		Divorced Separated or Widowed		Total
	#	%	#	%	#	%	
Control	35	80	6	14	3	7	44
Experimental	54	77	11	16	5	7	70
Total	89	78	17	15	8	7	114

$X^2 = .11$ Not Significant

$\left[X_2^2 (.95) = 5.991\right]$

TABLE 6. NUMBERS OF CHILDREN FOR EACH GROUP OF TEACHERS AND THE AVERAGE NUMBER PER TEACHER FOR EACH GROUP. *

Group	Number of Children	
	Number	Average
Urban-Elementary-Experimental	27	2.2
Urban-Elementary-Control	29	2.0
Urban-Secondary-Experimental	44	1.8
Urban-Secondary-Control	27	2.7
Rural-Elementary-Experimental	28	2.0
Rural-Elementary-Control	10	1.7
Rural-Secondary-Experimental	20	1.0
Rural-Secondary-Control	6	0.6
' Total	191	1.7

---

*The data on numbers of children are not in a form that permits further testing of statistical significance of the differences in this characteristic. Since these differences were not considered important enough to warrant the expense of testing based on the raw data, particularly in view of the negative results found in tests of the other demographic variables, no Table 6A is included.

TABLE 7. NUMBER OF YEARS OF TEACHING EXPERIENCE FOR EACH GROUP OF TEACHERS.

Group	Years of Teaching Experience										Total
	0-5		5-10		10-15		15-20		20-+		
	#	%	#	%	#	%	#	%	#	%	
Urban-Elementary-Experimental	0	0	6	50	3	25	2	17	1	8	12
Urban-Elementary-Control	2	11	3	17	4	22	7	39	2	11	18
Urban-Secondary-Experimental	3	13	10	41	4	17	5	21	2	8	24
Urban-Secondary-Control	0	0	2	20	3	30	4	40	1	10	10
Rural-Elementary-Experimental	1	7	8	58	3	21	2	14	0	0	14
Rural-Elementary-Control	2	33	1	17	2	33	1	17	0	0	6
Rural-Secondary-Experimental	3	15	2	10	12	60	2	10	1	5	20
Rural-Secondary-Control	3	30	2	20	2	20	1	10	2	20	10
Total	14	12	34	30	33	29	24	21	9	8	114

Table 7A

Test for Differences in Experience

Group	Years of Teaching Experience										
	0-5		5-10		10-15		15-20		20+		Total
	#	%	#	%	#	%	#	%	#	%	
Control	7	16	8	18	11	25	13	30	5	11	44
Experimental	7	10	26	37	22	31	11	16	4	6	70
Total	14	12	34	30	33	29	24	21	9	8	114

$X^2 = 7.83$ Not Significant

$\left[X_4^2\ (.95) = 9.488\right]$

TABLE 8. NUMBER OF YEARS OF TEACHING FOR EACH GROUP IN THEIR PRESENT SCHOOL DISTRICT.

Group	Years in Present School District										Total
	0-5		5-10		10-15		15-20		20-		
	#	%	#	%	#	%	#	%	#	%	
Urban-Elementary-Experimental	3	25	5	42	2	17	1	8	1	8	12
Urban-Elementary-Control	3	17	8	43	3	17	3	17	1	6	18
Urban-Secondary-Experimental	7	29	8	33	4	17	3	13	2	8	24
Urban-Secondary-Control	0	0	6	60	3	30	1	10	0	0	10
Rural-Elementary-Experimental	4	30	7	50	3	20	0	0	0	0	14
Rural-Elementary-Control	3	50	1	17	2	33	0	0	0	0	6
Rural-Secondary-Experimental	4	20	11	55	4	20	1	5	0	0	20
Rural-Secondary-Control	5	50	2	20	1	10	1	10	1	10	10
Total	29	26	48	42	22	20	10	9	5	3	114

TABLE 9. TYPE OF INSTITUTION FROM WHICH THE BACHELOR'S DEGREE WAS RECEIVED FOR EACH GROUP OF TEACHERS.

Group	Type of Institution								Total
	Public		Private		Parochial		Other		
	#	%	#	%	#	%	#	%	
Urban-Elementary-Experimental	10	84	1	8	1	8	0	0	12
Urban-Elementary-Control	14	77	3	17	1	6	0	0	18
Urban-Secondary-Experimental	22	92	2	8	0	0	0	0	24
Urban-Secondary-Control	9	90	0	0	1	10	0	0	10
Rural-Elementary-Experimental	11	79	1	7	2	14	0	0	14
Rural-Elementary-Control	5	83	0	0	1	17	0	0	6
Rural-Secondary-Experimental	12	60	5	25	3	15	0	0	20
Rural-Secondary-Control	9	90	1	10	0	0	0	0	10
Total	92	80	13	11	9	9	0	0	114

Table 8A

Test for Differences in District Service

Group	Years in District										Total
	0-5		5-10		10-15		15-20		20+		
	#	%	#	%	#	%	#	%	#	%	
Control	11	25	17	39	9	20	5	11	2	5	44
Experimental	18	26	31	44	13	10	5	7	3	4	70
Total	29	26	48	42	22	20	10	9	5	3	114

$X^2 = .77$ Not Significant

$$\left[X_4^2 (.95) = 9.488\right]$$

Table 9 A

Test for Differences in Type of Undergraduate Colleges

Group	Type of Institution						Total
	Public		Private		Parochial		
	#	%	#	%	#	%	
Control	37	84	4	9	3	7	44
Experimental	55	79	9	13	6	9	70
Total	92	80	13	11	9	9	114

$X^2 = .55$ Not Significant

$$\left[X_2^2\ (.95) = 5.991 \right]$$

TABLE 10. NUMBER OF GRADUATE UNITS FOR EACH OF THE EIGHT GROUPS.

Group	Number of Graduate Units										Total
	15		30		45		60		60+		
	#	%	#	%	#	%	#	%	#	%	
Urban-Elementary-Experimental	2	17	2	17	1	8	4	33	3	25	12
Urban-Elementary-Control	3	17	6	33	2	11	0	0	7	39	18
Urban-Secondary-Experimental	4	17	4	17	4	17	2	7	10	42	24
Urban-Secondary-Control	1	10	0	0	4	40	0	0	5	50	10
Rural-Elementary-Experimental	4	30	3	20	4	30	1	6	2	14	14
Rural-Elementary-Control	1	17	0	0	1	17	0	0	4	66	6
Rural-Secondary-Experimental	2	10	6	30	5	25	1	5	6	30	20
Rural-Secondary-Control	2	20	3	30	2	20	2	20	1	10	10
Total	19	17	24	21	23	20	10	9	38	33	114

TABLE 11. PREVIOUS EXPERIENCE IN FAMILY LIFE EDUCATION FOR THE TEACHERS IN THE EIGHT GROUPS.

Group	Type of Experience										Total
	Course Work		Independent Reading		Community Programs		Other		None		
	#	%	#	%	#	%	#	%	#	%	
Urban-Elementary-Experimental	1	8	3	25	0	0	5	42	3	25	12
Urban-Elementary-Control	3	17	11	60	1	6	1	6	2	11	18
Urban-Secondary-Experimental	5	21	13	53	0	0	3	13	3	13	24
Urban-Secondary-Control	2	20	6	60	0	0	0	0	2	20	10
Rural-Elementary-Experimental	2	14	4	30	1	6	4	30	3	20	14
Rural-Elementary-Control	2	33	1	17	1	17	1	17	1	17	6
Rural-Secondary-Experimental	9	45	8	40	0	0	2	10	1	5	20
Rural-Secondary-Control	4	40	5	50	1	10	0	0	0	0	10
Total	28	24	51	45	4	4	16	15	14	12	114

Table 10A

Test for Differences for Graduate Units

Group	Number of Graduate Units										Total
	15		30		45		60		60+		
	#	%	#	%	#	%	#	%	#	%	
Control	7	16	9	20	9	20	2	5	17	39	44
Experimental	12	17	15	21	14	20	8	11	21	30	70
Total	19	17	24	21	23	20	10	9	38	33	114

$X^2 = 2.14$ Not Significant

$X^2_4 (.95) = 9.488$

Table 11A

Test for Differences in Experience in Family Life Education

Group	Family Life Education and Training										Total
	Course Work		Independent Reading		Community Progress		Other		None		
	#	%	#	%	#	%	#	%	#	%	
Control	11	25	23	52	3	7	2	5	5	11	44
Experimental	17	24	28	40	1	1	14	20	9	13	70
Total	28	24	51	45	4	4	16	15	14	12	114

$X^2 = 7.00$ Not Significant

$X^2_4 (.95) = 9.488$

TABLE 12. PREVIOUS IN-SERVICE TRAINING EXPERIENCE IN FAMILY LIFE EDUCATION FOR EACH GROUP OF TEACHERS.

Group	In-Service Training Programs in Family Life Education in Which Teachers Participated										Total
	0		1		2		3		4		
	#	%	#	%	#	%	#	%	#	%	
Urban-Elementary-Experimental	9	75	2	17	1	8	0	0	0	0	12
Urban-Elementary-Control	14	77	3	17	1	6	0	0	0	0	18
Urban-Secondary-Experimental	20	84	2	8	1	4	0	0	1	4	24
Urban-Secondary-Control	8	80	0	0	1	10	1	10	0	0	10
Rural-Elementary-Experimental	11	80	2	14	1	6	0	0	0	0	14
Rural-Elementary-Control	6	100	0	0	0	0	0	0	0	0	6
Rural-Secondary-Experimental	16	80	4	20	0	0	0	0	0	0	20
Rural-Secondary-Control	10	100	0	0	0	0	0	0	0	0	10
Total	94	82	13	12.2	5	48	1	1	1	1	114

TABLE 13. RELIGIOUS BACKGROUNDS OF THE TEACHERS IN THE EIGHT GROUPS.

Group	Religious Affiliation										Total
	Protestant		Catholic		Agnostic		Atheist		Jewish		
	#	%	#	%	#	%	#	%	#	%	
Urban-Elementary-Experimental	8	67	1	8	3	25	0	0	0	0	12.
Urban-Elementary-Control	10	56	2	11	2	11	0	0	4	22	18
Urban-Secondary-Experimental	13	54	4	17	2	8	1	4	4	17	24
Urban-Secondary-Control	6	60	0	0	2	20	0	0	2	20	10
Rural-Elementary-Experimental	6	44	5	35	1	7	0	0	2	14	14
Rural-Elementary-Control	3	49	1	17	1	17	0	0	1	17	6
Rural-Secondary-Experimental	9	45	6	30	5	25	0	0	0	0	20
Rural-Secondary-Control	4	40	2	20	3	30	1	10	0	0	10
Total	59	51.2	21	18.4	19	16.6	2	1.8	13	12	114

Table 12A

Test for Differences in In-Service Training

Group	Previous Family Life In-Service Program						Total
	0		1		2, 3, or 4		
	#	%	#	%	#	%	
Control	38	86	3	7	3	7	44
Experimental	56	80	10	14	4	6	70
Total	94	82	13	12.2	7	6	114

$X^2 = 1.48$ Not Significant

$$\left[X_2^2\,(.95) = 5.991\right]$$

Table 13A

Test for Differences in Religious Affiliation

Group	Religious Affiliation								Total
	Protestant		Catholic		Agnostic or Athiest		Jewish		
	#	%	#	%	#	%	#	%	
Control	23	52	5	11	9	20	7	16	44
Experimental	36	51	16	23	12	17	6	9	70
Total	59	51	21	18	21	18	13	12	114

$X^2 = 3.40$ Not Significant

$$\left[X_3^2\ (.95) = 7.815\right]$$

TABLE 14. HOME LIFE DURING CHILDHOOD FOR THE TEACHERS IN THE EIGHT GROUPS.

Group	Childhood Home Life								Total
	Unhappy		Poor		Good		Excellent		
	#	%	#	%	#	%	#	%	
Urban-Elementary-Experimental	1	8	1	8	8	68	2	16	12
Urban-Elementary-Control	4	22	1	6	7	39	6	33	18
Urban-Secondary-Experimental	0	0	5	21	13	54	6	25	24
Urban-Secondary-Control	0	0	0	0	8	80	2	20	10
Rural-Elementary-Experimental	0	0	0	0	8	59	6	41	14
Rural-Elementary-Control	0	0	1	17	3	50	2	33	6
Rural-Secondary-Experimental	2	10	1	5	9	45	8	40	20
Rural-Secondary-Control	0	0	0	0	8	80	2	20	10
Total	7	6.1	9	8	64	56.1	34	29.8	114

TABLE 15. TYPE OF COMMUNITY DURING CHILDHOOD FOR THE TEACHERS IN THE EIGHT GROUPS.

Group	Childhood Setting								Total
	Rural		Urban		Suburban		Other		
	#	%	#	%	#	%	#	%	
Urban-Elementary-Experimental	4	33	3	25	4	33	1	9	12
Urban-Elementary-Control	6	33	3	17	9	50	0	0	18
Urban-Secondary-Experimental	7	29	12	50	5	21	0	0	24
Urban-Secondary-Control	3	30	3	30	3	30	1	10	10
Rural-Elementary-Experimental	5	35	3	21	4	29	2	15	14
Rural-Elementary-Control	1	17	5	83	0	0	0	0	6
Rural-Secondary-Experimental	5	25	8	40	7	35	0	0	20
Rural-Secondary-Control	2	20	4	40	4	40	0	0	10
Total	33		41		36		4		114

Table 14 A

Test for Home Life Differences

Group	Childhood Home Life								Total
	Unhappy		Poor		Good		Excellent		
	#	%	#	%	#	%	#	%	
Control	4	9	2	5	26	59	12	27	44
Experimental	3	4	7	10	38	54	22	31	70
Total	7	6	9	8	64	56	34	30	114

$X^2 = 2.33$ Not Significant

$$\left[X^2_3 = 7.815\right]$$

Table 15A

Test for Differences in Childhood Community

Group	Childhood Setting								Total
	Rural		Urban		Suburban		Other		
	#	%	#	%	#	%	#	%	
Control	12	27	15	34	16	36	1	2	44
Experimental	21	30	26	37	20	29	3	4	70
Total	33	29	41	36	36	32	4	4	114

$X^2 = .91$ Not Significant

$\left[X_3^2 (.95) = 7.815\right]$

TABLE 16. SOCIO-ECONOMIC STATUS OF FAMILY DURING CHILDHOOD FOR THE TEACHERS OF THE EIGHT GROUPS.

Group	Socio-Economic Status						Total
	Upper Class		Middle Class		Lower Class		
	#	%	#	%	#	%	
Urban-Elementary-Experimental	0	0	10	83	2	17	12
Urban-Elementary-Control	1	6	14	77	3	17	18
Urban-Secondary-Experimental	1	4	19	79	4	17	29
Urban-Secondary-Control	0	0	8	80	2	20	10
Rural-Elementary-Experimental	0	0	12	86	2	14	14
Rural-Elementary-Control	0	0	5	83	1	17	6
Rural-Secondary-Experimental	2	10	15	75	3	15	20
Rural-Secondary-Control	1	10	8	80	1	10	10
Total	5	4	91	80	18	16	114

TABLE 17. RACIAL AND ETHNIC BACKGROUNDS OF THE TEACHERS IN THE EIGHT GROUPS.

Group	Ethnic Background										Total
	Negroid		American Indian		Oriental		Spanish		Caucasian		
	#	%	#	%	#	%	#	%	#	%	
Urban-Elementary-Experimental	1	8	1	8	0	0	0	0	10	84	12
Urban-Elementary-Control	0	0	0	0	0	0	0	0	18	100	18
Urban-Secondary-Experimental	1	4	0	0	0	0	0	0	23	96	24
Urban-Secondary-Control	0	0	0	0	0	0	0	0	10	100	10
Rural-Elementary-Experimental	0	0	0	0	0	0	0	0	14	100	14
Rural-Elementary-Control	1	17	0	0	0	0	0	0	5	83	6
Rural-Secondary-Experimental	0	0	0	0	0	0	0	0	20	100	20
Rural-Secondary-Control	0	0	0	0	0	0	0	0	10	100	10
Total	3	2.4	1	0.8	0	0	0	0	110	96.8	114

Table 16 A

Test for Differences in Childhood Socioeconomic Status

Group	SES as Child						Total
	Upper		Middle		Lower		
	#	%	#	%	#	%	
Control	2	5	35	80	7	16	44
Experimental	3	4	56	80	11	16	70
Total	5	4	91	80	18	16	114

$X^2 = .01$ Not Significant

$$\left[X^2_2 = (.95) = 5.991\right]$$

Table 17A

Test of Racial Differences

Group	Race				Total
	Non-White		White		
	#	%	#	%	
Control	1	2	43	98	44
Experimental	3	4	67	96	70
Total	34	4	110	96	114

$X^2 = .28$ Not Significant

$$\left[X_1^2 \ (.95) = 3.841 \right]$$

Analysis of Pretest Scores

Tables 18 and 19 show sample sizes, means, and standard deviations of scores on the 14 OPI scales and on the SKI. Examination of these tables reveals very little difference among the pretest scores of the eight groups on these dependent variables.

It is also of interest to compare the profiles of means on these dependent variables (OPI and SKI) for the levels of each independent variable (Type of Community, Type of School and Experimental Condition). Tables 20 through 22 show the means and standard deviations for the levels of each independent variable. Figures 1 through 3 represent the corresponding profile plots of these means over the same two levels of the independent variables. As can be readily seen from the graphs, there is very little difference between individuals before training has taken place. The performance of a specific group is evaluated by looking at the means for the 14 OPI scales and the SKI score.

Table 23 shows the multivariate analysis of variance table resulting from the test of the equality of the mean scores on the two dependent variables (OPI and SKI). This table indicates that none of these differences in means scores between and among groups was statistically significant before training.

All of these findings support the hypothesis that no significant differences existed in the pretest scores of the eight groups of subjects on the 14 OPI scales and the SKI.

Table 18
Spring, 1968
Pre-Test

			Urban				Rural			
			Elem.		Sec.		Elem.		Sec.	
			Exp.	Cont.	Exp.	Cont.	Exp.	Cont.	Exp.	Cont.
	Sample Sizes		12	18	24	10	14	6	20	10
	Means									
OPI	1	TI	28.2	27.2	25.2	26.1	25.3	28.3	22.8	28.3
	2	TO	19.8	17.7	18.6	19.6	17.3	22.8	20.1	21.4
	3	Es	14.5	14.9	11.2	12.3	13.4	13.7	8.7	13.3
	4	Co	15.0	14.2	13.6	14.4	13.2	15.3	13.5	14.8
	5	Au	29.3	29.7	30.5	34.2	29.4	32.5	30.6	30.7
	6	RO	15.1	14.3	15.5	16.1	13.4	17.7	16.0	16.4
	7	SE	25.2	25.4	24.3	23.5	25.9	24.0	25.2	28.9
	8	IE	28.5	28.2	26.2	29.4	22.2	23.0	29.4	27.4
	9	PI	39.3	40.1	43.8	36.5	40.1	45.2	42.4	43.4
	10	AL	14.8	14.6	17.0	12.2	16.3	17.2	16.5	16.2
	11	Am	23.8	25.7	24.3	22.7	26.9	26.7	23.4	27.0
	12	PO	11.6	12.0	12.4	11.2	12.9	10.8	12.5	11.2
	13	MF	26.3	25.1	30.1	28.8	24.1	28.3	31.0	28.3
	14	RB	14.9	14.7	14.7	13.3	13.3	16.0	15.7	17.8
		SKI	51.7	49.7	54.4	55.0	54.1	54.8	51.0	51.4

44

Table 19
Spring, 1968
Pre-Test

		Urban				Rural			
		Elem.		Sec.		Elem.		Sec.	
		Exp.	Cont.	Exp.	Cont.	Exp.	Cont.	Exp.	Cont.
	Sample Sizes	12	18	24	10	14	6	20	10
	Standard Dev.								
OPI	1 TI	8.8	7.1	6.5	6.9	7.7	5.9	5.7	6.3
	2 TO	6.2	5.0	5.2	5.5	5.1	3.1	4.9	7.9
	3 Es	4.8	5.4	5.1	3.6	4.5	5.1	3.8	6.3
	4 Co	4.7	4.4	4.9	5.3	4.2	6.0	3.8	7.6
	5 Au	8.0	6.0	6.2	5.7	7.2	8.5	6.9	7.9
	6 RO	4.4	5.2	5.9	6.5	5.5	6.1	5.7	5.0
	7 SE	5.2	7.0	7.1	8.4	4.9	7.3	5.6	4.1
	8 IE	11.1	8.7	9.1	10.8	10.8	8.1	8.9	12.7
	9 PI	10.6	7.3	6.1	9.2	7.3	4.4	6.2	7.0
	10 AL	3.6	3.9	2.6	5.8	2.9	1.9	2.5	2.5
	11 Am	4.1	4.0	6.0	5.9	4.4	4.2	6.6	4.2
	12 PO	6.5	4.2	4.9	3.8	4.8	4.6	5.8	6.3
	13 MF	4.7	5.8	5.2	7.4	4.1	6.8	6.3	4.8
	14 RB	4.2	5.2	3.6	4.9	4.1	2.4	3.5	3.6
	SKI	8.7	6.8	7.8	6.1	9.0	2.2	6.6	8.1

Table 20

Pre-Test, Spring, 1968

Type of Community

		Urban (N = 64)		Rural (N = 50)	
SCALE		$\bar{X}$	S	$\bar{X}$	S
OPI 1	TI	26.5	7.1	25.3	6.7
2	TO	18.7	5.3	19.9	5.7
3	Es	13.0	5.1	11.5	5.1
4	Co	14.2	4.7	13.8	5.1
5	Au	30.6	6.5	30.5	7.2
6	RO	15.2	5.4	15.6	5.6
7	SE	24.7	6.8	26.0	5.4
8	IE	27.7	9.5	26.2	10.4
9	PI	40.8	8.2	42.3	6.5
10	AL	15.1	4.0	16.4	2.5
11	Am	24.3	5.1	25.5	5.4
12	PO	11.9	4.8	12.2	5.3
13	MF	27.8	5.9	28.2	6.1
14	RB	14.5	4.3	15.5	3.8
	SKI	52.7	7.6	52.4	7.3

Table 21

Pre-Test, Spring, 1968

SCALE			Type of School Elementary (N = 50)		Secondary (N = 64)	
			$\overline{X}$	S	$\overline{X}$	S
OPI	1	TI	27.0	7.4	25.1	6.4
	2	TO	18.7	5.4	19.6	5.6
	3	Es	14.2	4.9	10.9	4.9
	4	Co	14.3	4.6	13.8	5.1
	5	Au	29.8	7.0	31.1	6.6
	6	RO	14.6	5.2	15.9	5.7
	7	SE	25.3	5.9	25.2	6.6
	8	IE	26.0	10.0	27.9	9.8
	9	PI	40.5	7.9	42.2	7.1
	10	AL	15.4	3.4	15.9	3.6
	11	Am	25.7	4.2	24.2	6.0
	12	PO	12.0	4.9	12.0	5.2
	13	MF	25.5	5.2	29.9	5.8
	14	RB	14.5	4.4	15.3	3.9
		SKI	52.0	7.7	53.0	7.3

Table 22

Pre-Test, Spring, 1968

SCALE			Experimental Condition			
			Experimental (N = 70)		Control (N = 44)	
			$\overline{X}$	S	$\overline{X}$	S
OPI	1	TI	25.0	7.0	27.3	6.5
	2	TO	18.9	5.3	19.7	5.9
	3	Es	11.5	5.0	13.8	5.2
	4	Co	13.7	4.4	14.5	5.5
	5	Au	30.1	6.8	31.3	6.8
	6	RO	15.2	5.5	15.6	5.5
	7	SE	25.0	5.9	25.6	6.9
	8	IE	26.7	9.9	27.6	10.0
	9	PI	41.9	7.4	40.7	7.7
	10	AL	16.3	2.9	14.8	4.2
	11	Am	24.5	5.7	25.4	4.7
	12	PO	12.4	5.3	11.5	4.6
	13	MF	28.5	5.8	27.1	6.1
	14	RB	14.7	3.8	15.3	4.6
		SKl	52.9	7.9	52.0	6.7

Figure 1

Plot of Means for Type of Community

Pre-Test, Spring, 1968

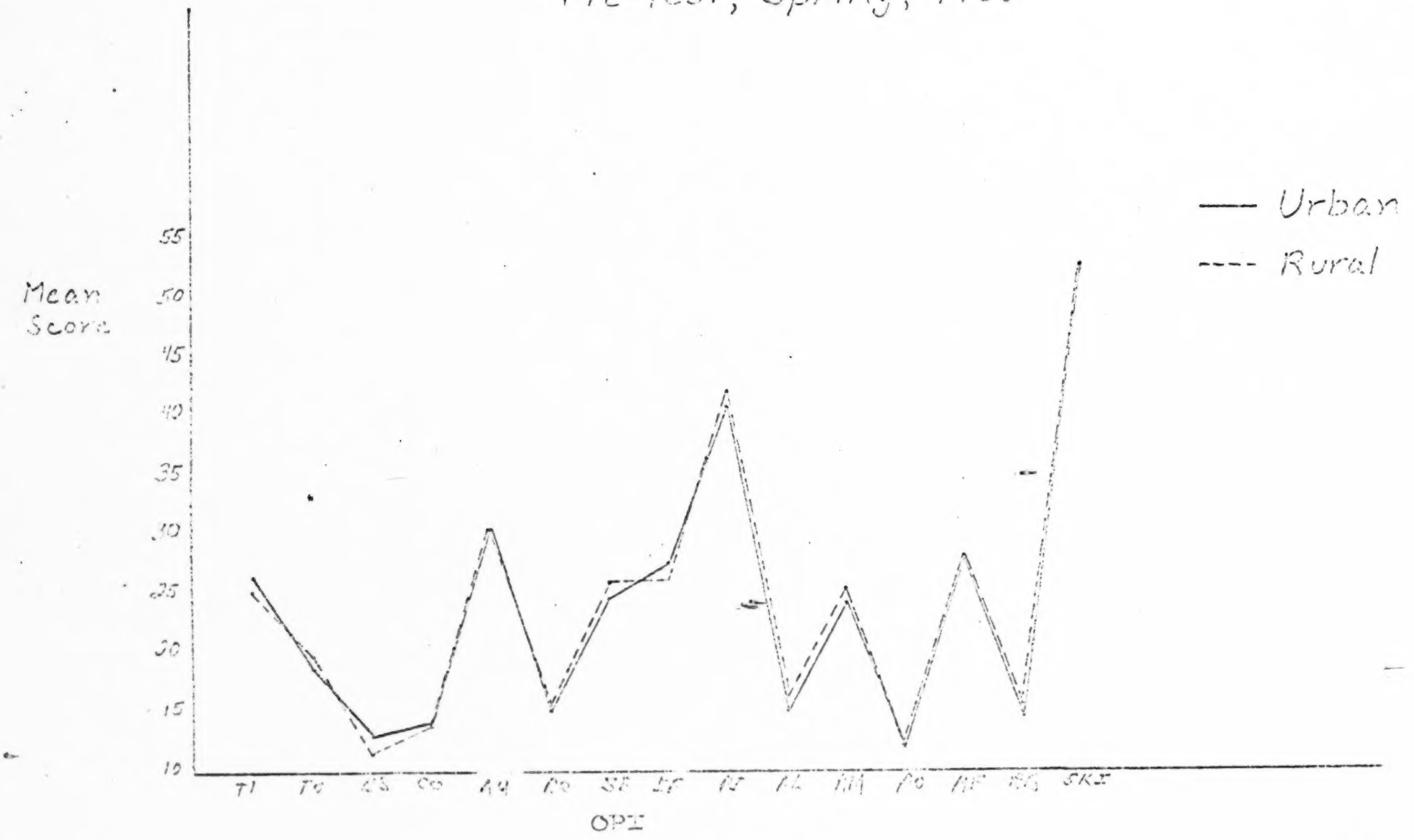


Figure 2

Plot of Means for Type of School

Pre-test, Spring, 1968

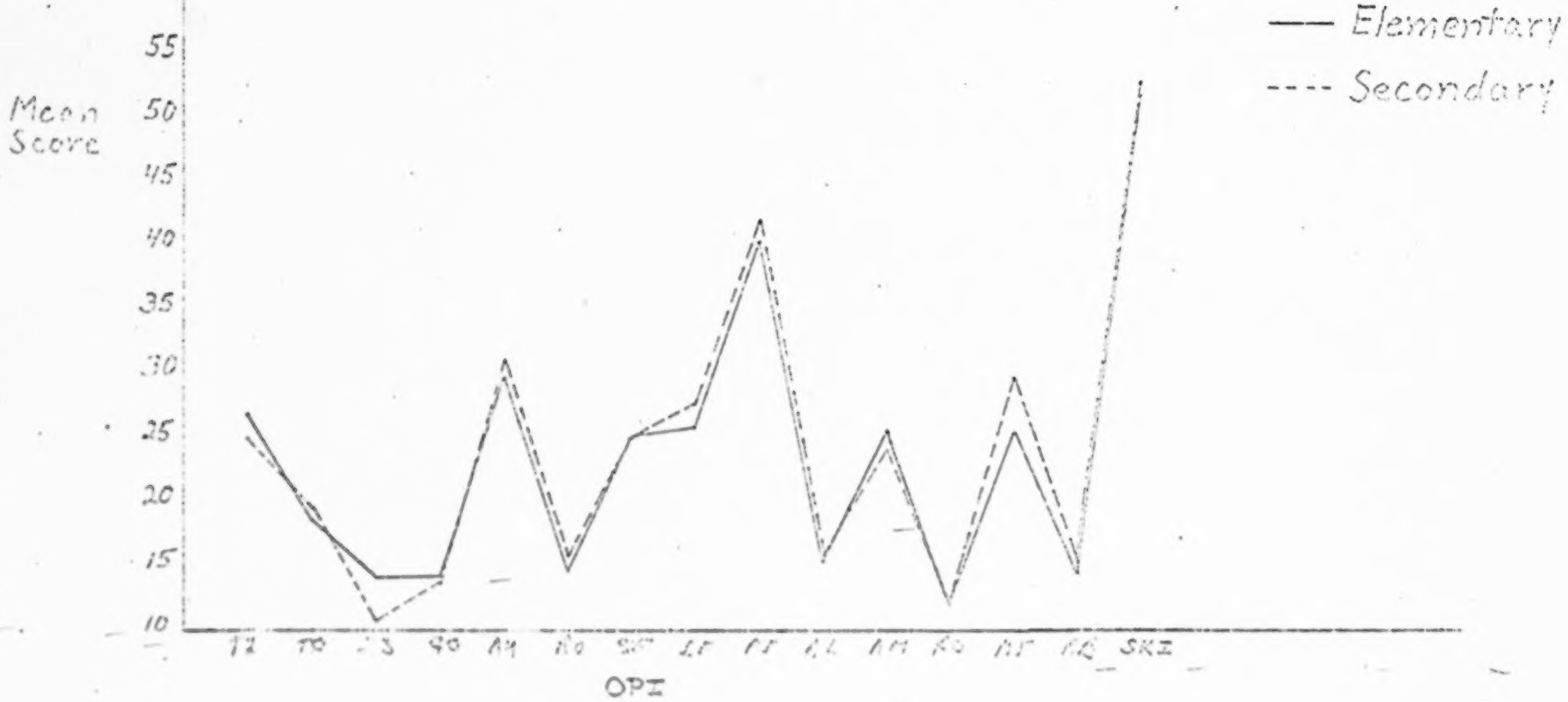


Figure 3

Plot of Means for Experimental Conditions

Pre-test, Spring, 1968

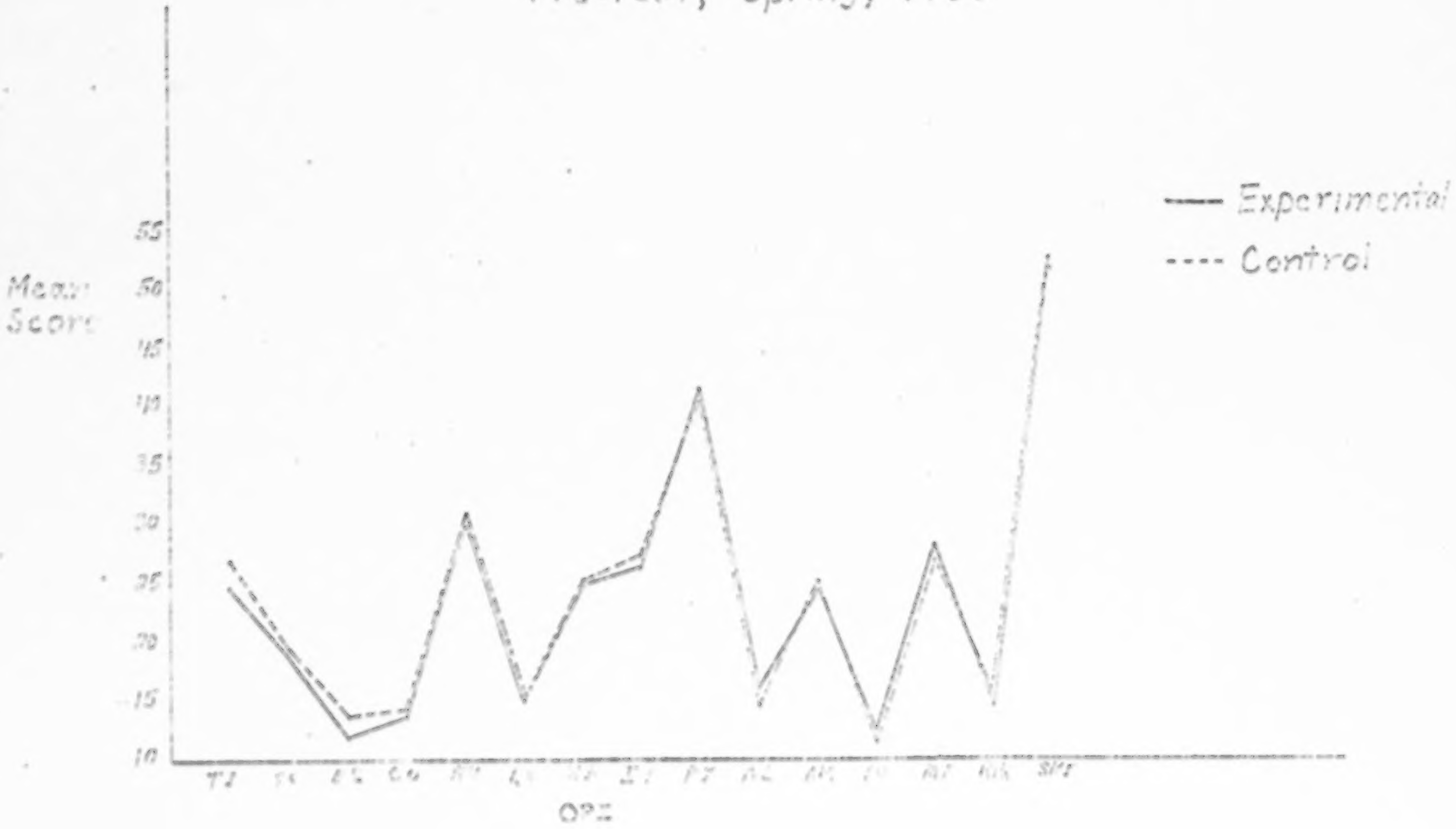


Table 23
Spring 1968
Pre-test

Analysis of Variance Table Showing Results Of Multivariate Test of Equality of Means

Source of Variation	Multivariate F-Ratio	P less than
C	1.3447	.1926
S	1.7322	.0580
E	.9326	.5326
C X S	1.5898	.0919
C X E	.9336	.5307
S X E	.8741	.5946
CXSXE	.8460	.6251

($F_{15, 92}$ (.95) = 1.7806)

Analysis of Post-Test Scores

In the fall of 1968, the post-test series (OPI and SKI) was readministered. Seventy experimental and 44 control teachers were pretested; 24 experimental and 13 control teachers took the post-test. It will be of interest to compare the scores obtained by teachers on the pretest with the scores they obtained on the post-test. The post-test means (Table 24) and standard deviations (Table 25) over eight partitions of the study have been constructed. The means and standard deviations for the levels of each independent variable (Type of Community, Type of School, and Experimental Condition) over the 14 OPI scales and the SKI are given in Tables 26-28. Corresponding profiles for the OPI and SKI means are presented in Figures 4-6.

The post-test profiles are somewhat more erratic than the pretest profiles. In general, the profiles between urban and rural teachers (Figure 4) remain about the same for both testings over all OPI scales except for the Social Extroversion (SE) scale. On the pretest, rural teachers scored higher on the SE scale than did urban teachers. The reverse is true on the post-test. The split for elementary and secondary school teachers provides the most divergent profiles. On the pretest, elementary school teachers were about five points higher on the Social Extroversion (SE) scale than were secondary school teachers. Exactly the opposite is true on the Masculinity-Femininity (MF) scale. Both groups scored similarly on the SKI. For the post-test, secondary school teachers have profiles lying below the profiles for elementary school teachers on scales Thinking-Introversion (TI), Theretical Orientation (TO), Social Extroversion (SE), Complexity (Co), Autonomy (Au), and Religious Orientation (RO). The remaining scales and the SKI are almost identical for both groups.

Whereas on the pretest the experimental and control groups exhibit similar profiles, this is not the case for the post-test. Teachers in the experimental group show significantly higher means on scales Thinking Introversion (TI), Religious Orientation (RO), and Personal Integration (PI). Control teachers show a marked increase over experimental teachers on the Autonomy (Au) scale. The two groups are similar on all other OPI scales and the SKI. All other things being equal, the difference in performance on the post-test between the experimental and control groups can be attributed to the training that the experimental group received and that the control group did not receive.

When interpreted, these findings suggest that urban teachers display a stronger interest in social activities and are more socially extroverted than the rural teachers; the elementary school teachers exhibit a higher degree of concern for scholastic interests and endeavors than the secondary school teachers; and the experimental group of teachers display a higher liking for reflective thought and academic activities, are more skeptical of conventional religious beliefs, and are less socially alienated or disturbed than the control group of teachers.

TABLE 24

Spring, 1968
Post-Test

	Urban				Rural			
	Elem.		Sec.		Elem.		Rural	
	Exp.	Cont.	Exp.	Cont.	Exp.	Cont.	Exp.	Cont.
Sample Sizes	7	5	7	2	7	2	3	4
Means								
TI	29.9	19.4	23.7	22.5	28.6	27.5	23.0	25.8
TO	20.7	15.8	16.7	15.0	20.9	24.0	24.0	20.3
ES	15.0	13.2	10.9	12.5	14.0	15.0	5.0	9.5
CO	16.6	11.6	12.7	8.5	13.6	20.5	13.0	10.3
AY	31.7	28.6	31.9	29.0	33.6	40.0	30.0	27.0
RO	15.3	16.4	12.7	18.0	14.4	23.5	13.7	15.3
SE	25.0	23.6	30.1	25.0	24.4	23.5	21.3	26.5
IE	26.4	30.2	23.3	35.0	19.9	31.0	19.7	22.3
PI	39.7	38.2	44.7	24.0	42.1	38.5	43.3	42.3
AL	13.7	12.4	16.7	5.5	13.9	18.0	18.0	15.0
AM	26.7	24.0	25.9	20.0	28.3	23.0	24.3	26.8
PO	9.3	15.6	12.7	20.0	10.9	9.5	13.3	12.8
MF	24.6	25.8	30.6	25.0	22.4	35.0	39.0	26.8
RB	14.9	10.6	15.9	8.0	15.3	12.5	17.7	16.5
SKI	56.6	55.0	57.9	56.0	58.3	58.0	52.3	54.8

TABLE 25

Spring, 1968
Post-Test

	Urban				Rural			
	Elem.		Sec.		Elem.		Rural	
	Exp.	Cont.	Exp.	Cont.	Exp.	Cont.	Exp.	Cont.
Sample Sizes	7	5	7	2	7	2	3	4
Standard Dev.								
OPI 1 TI	5.6	8.4	3.4	2.1	9.1	0.7	11.5	6.0
OPI 2 TO	5.0	4.2	3.2	2.8	6.3	0.0	6.1	7.8
OPI 3 ES	3.9	7.3	4.1	4.9	3.2	4.2	3.5	3.9
OPI 4 CO	5.3	5.7	4.2	2.1	3.9	7.8	5.0	5.9
OPI 5 AU	6.7	5.3	3.3	11.3	5.9	12.7	6.2	9.1
OPI 6 RO	5.7	5.3	4.6	5.7	5.7	0.7	6.8	6.2
OPI 7 SE	4.2	6.2	4.0	0.0	4.8	12.0	2.1	5.2
OPI 8 IE	13.6	9.6	8.0	7.1	9.5	7.1	8.5	10.8
OPI 9 PI	9.8	8.1	7.9	11.3	6.0	16.3	8.6	7.4
OPI 10 AL	4.5	3.6	2.4	0.7	4.0	1.4	2.0	2.9
OPI 11 AM	4.7	5.2	7.0	4.2	4.5	7.1	3.5	4.6
OPI 12 PO	4.5	5.4	2.1	8.5	6.4	2.1	5.5	6.8
OPI 13 MF	4.7	7.8	3.5	8.5	5.4	5.7	4.4	2.9
OPI 14 RB	3.4	1.8	1.6	0.0	5.1	0.7	4.7	5.8
SKI	5.9	7.0	5.8	4.2	5.5	4.2	7.5	8.6

TABLE 26

Post-Test, Spring, 1968

Type of Community

SCALE		Urban (N=21) $\overline{X}$	Urban (N=21) S	Rural (N=16) $\overline{X}$	Rural (N=16) S
OPI 1	TI	24.6	6.6	26.7	7.9
OPI 2	TO	17.7	4.4	21.7	6.0
OPI 3	ES	13.0	4.9	11.3	4.9
OPI 4	CO	13.3	5.2	13.5	5.4
OPI 5	AU	30.8	5.6	32.1	8.0
OPI 6	RO	15.0	5.2	15.6	6.1
OPI 7	SE	26.4	5.1	24.3	5.3
OPI 8	IE	27.1	10.5	21.8	9.3
OPI 9	PI	39.5	10.1	41.9	7.4
OPI 10	AL	13.6	4.6	15.4	3.5
OPI 11	AM	25.1	5.6	26.5	4.6
OPI 12	PO	13.0	5.3	11.6	5.7
OPI 13	MF	26.9	5.8	28.2	8.0
OPI 14	RB	13.5	3.5	15.7	4.7
SKI		56.6	5.7	56.3	6.4

TABLE 27

Post-Test, Spring, 1968

Type of School

		Elem. (N = 21)		Sec. (N = 16)	
		$\overline{X}$	S	$\overline{X}$	S
OPI 1	TI	26.7	8.1	23.9	5.6
2	TO	19.9	5.4	18.8	5.6
3	ES	14.2	4.4	9.6	4.3
4	CO	14.8	5.5	11.6	4.5
5	AU	32.4	6.9	29.9	6.2
6	RO	16.0	5.7	14.2	5.3
7	SE	24.3	5.3	26.9	4.9
8	IE	25.6	11.1	23.8	9.1
9	PI	40.0	8.3	41.3	10.0
10	AL	13.9	4.0	15.1	4.4
11	AM	26.2	4.9	25.1	5.6
12	PO	11.3	5.6	13.8	5.1
13	MF	25.1	6.5	30.5	6.0
14	RB	13.8	4.0	15.4	4.4
SKI		56.9	5.6	55.8	6.5

TABLE 28

Post-Test, Spring, 1968

Experimental Condition

			Experimental (N = 24)		Control (N = 13)	
			$\bar{X}$	S	$\bar{X}$	S
OPI	1	TI	26.8	7.3	23.1	6.7
	2	TO	20.0	5.3	18.3	5.7
	3	ES	12.3	4.7	12.2	5.4
	4	CO	14.1	4.6	12.1	6.3
	5	AU	32.1	5.3	29.9	8.7
	6	RO	14.1	5.3	17.4	5.5
	7	SE	25.9	4.9	24.7	5.8
	8	IE	22.8	10.2	28.6	9.5
	9	PI	42.3	7.8	37.3	10.3
	10	AL	15.2	3.8	13.0	4.7
	11	AM	26.6	5.2	24.1	5.0
	12	PO	11.3	4.7	14.5	6.2
	13	MF	27.5	7.0	27.4	6.5
	14	RB	15.6	3.6	12.3	4.4
SKI			56.9	5.9	55.5	6.2

Figure 4

Plot of Means for Type of Community
Post-Test, Spring, 1968

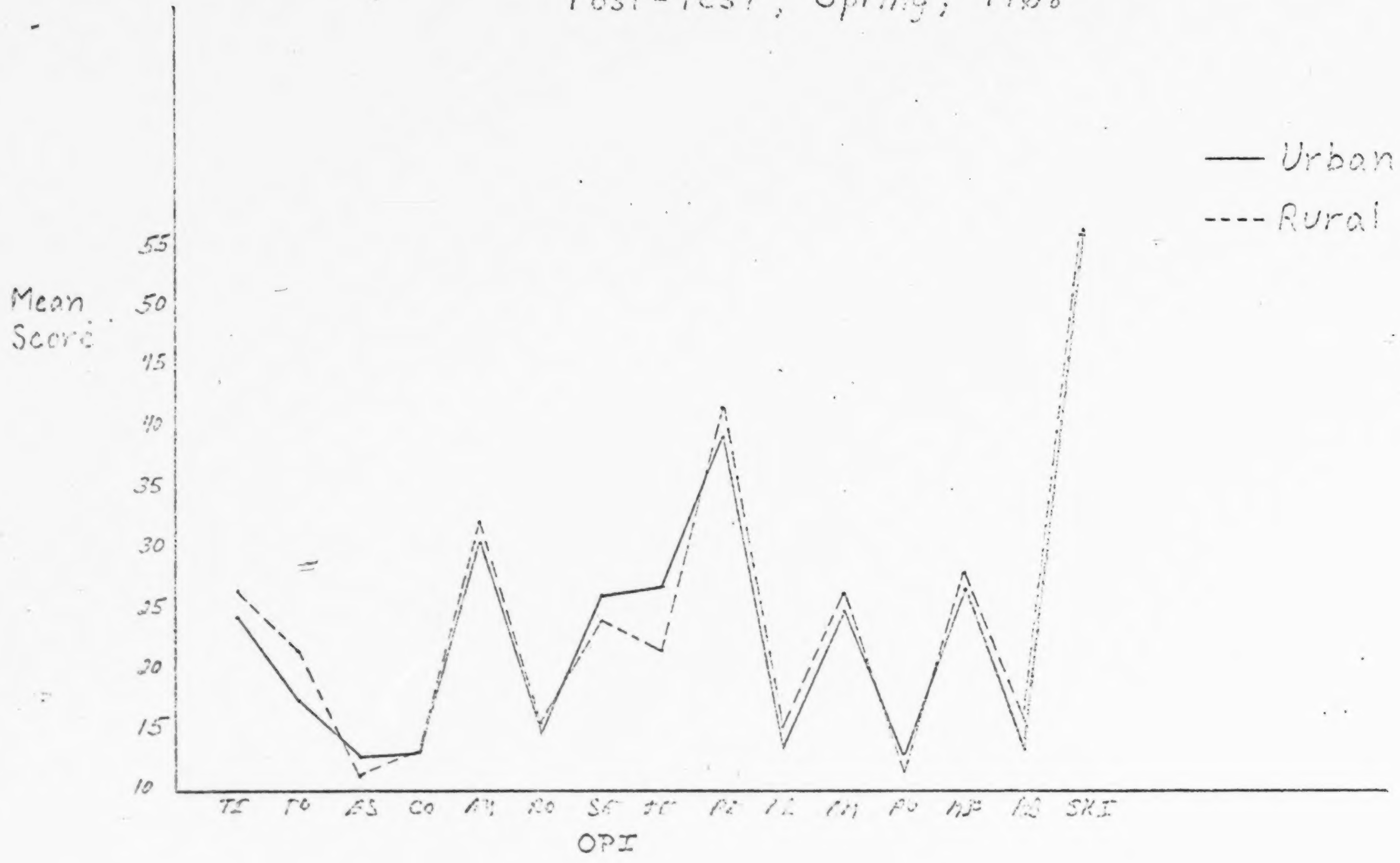


Figure 5

Plot of Means for Type of School

Post-test, Spring, 1968

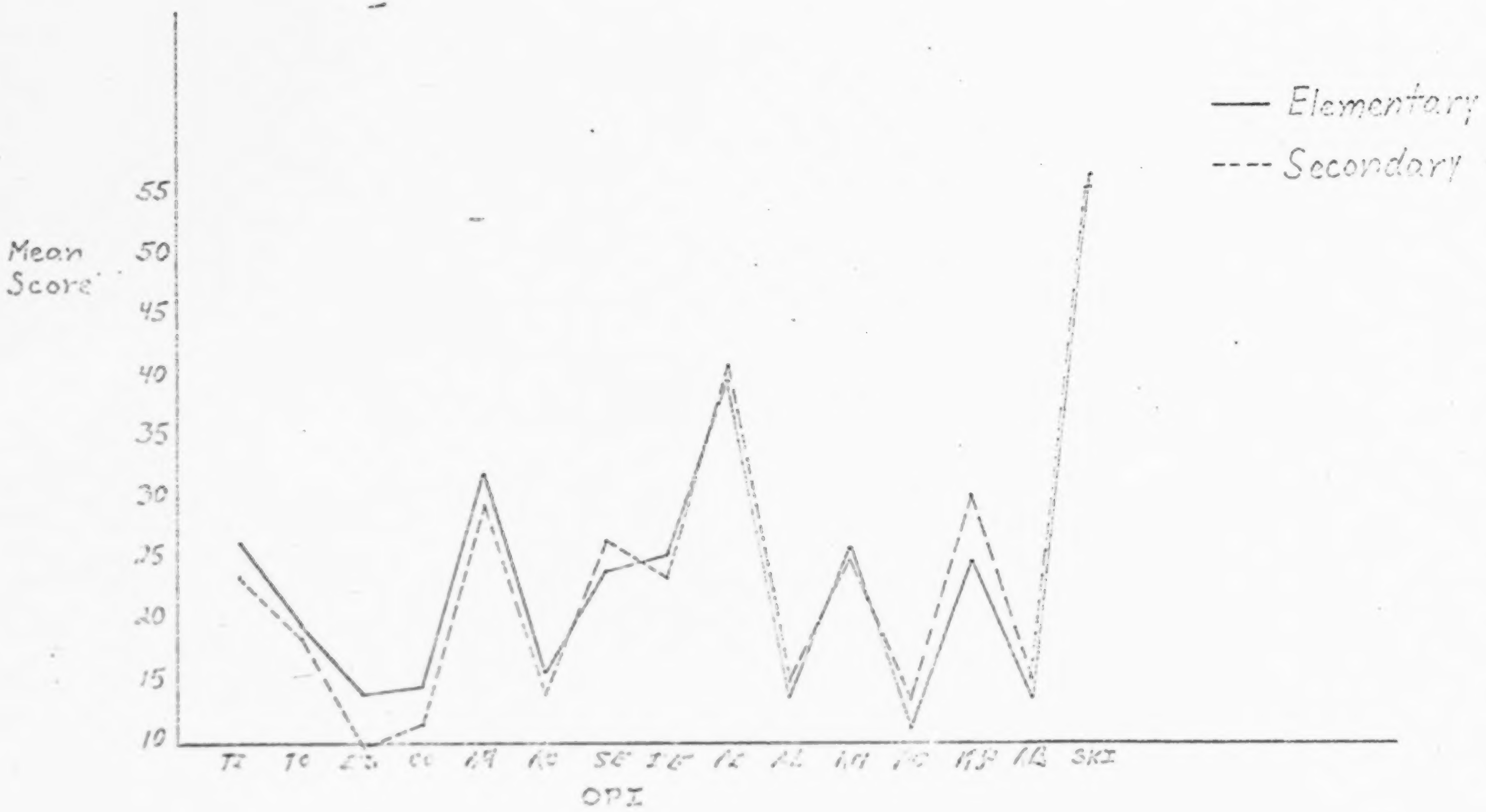
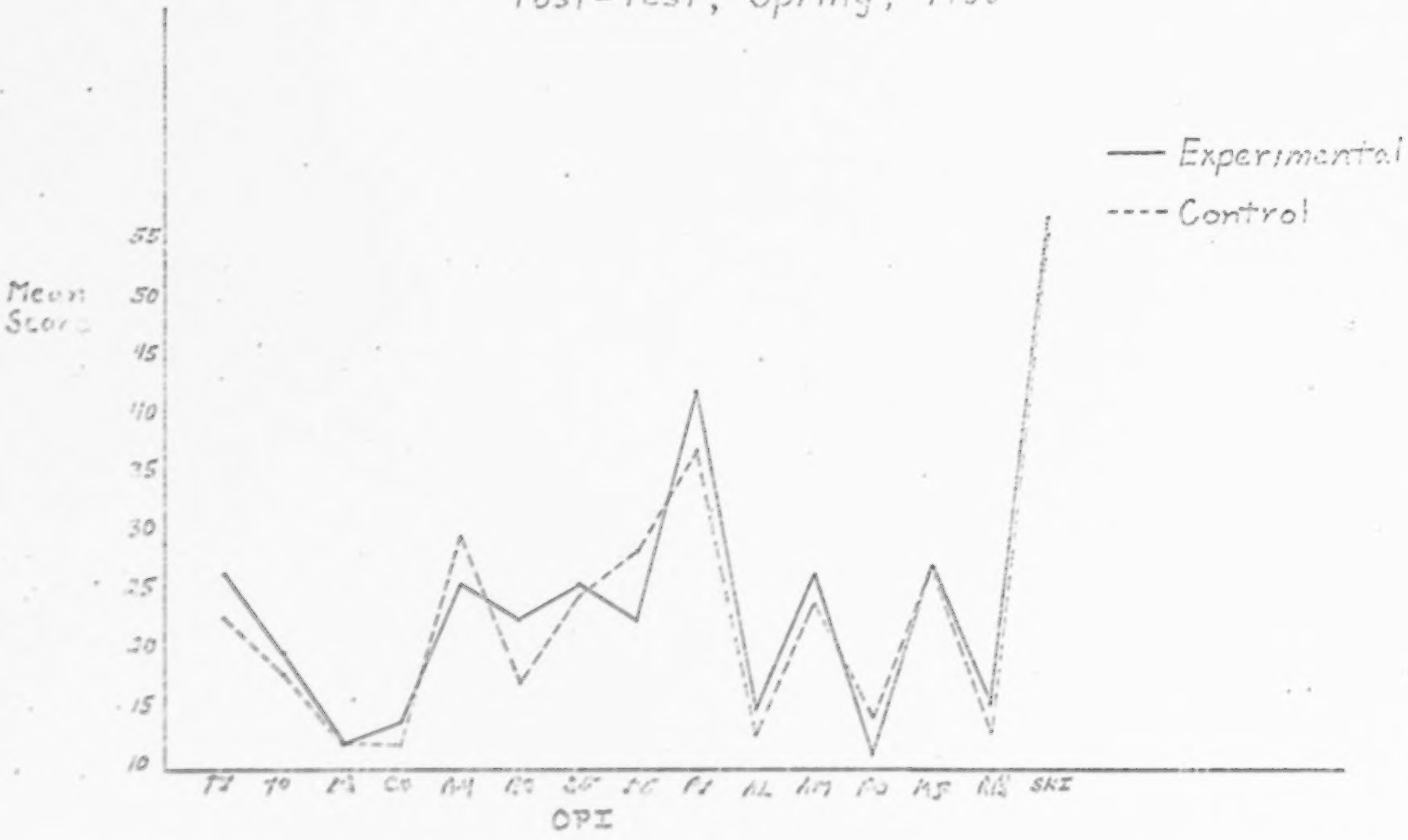


Figure 6
Plot of Means for Experimental Conditions
Post-Test, Spring, 1968



In order to evaluate the effect of training on the teachers, an analysis of variance was performed on the pre- and post-test SKI scores. The independent variables under consideration were Community (C), School (S), and Experimental Condition (E). The essence of the analysis was to look for differences between urban and rural teachers, elementary and secondary school teachers, teachers in the experimental and control groups, and at the same time look for interaction between variables. In no case was a difference between the levels of each of these variables found to be significant. Thus, we can conclude that teachers from an urban and rural setting do not differ in their performance on the SKI. Secondly, there is no performance difference between elementary and secondary school teachers. Thirdly, and most important of all relative to the post-test data, the experimental group that has had special preparation in the teaching of family life education, with an emphasis on healthy sexuality, does not perform any better on the SKI test than does the control group which had no special training. As might be expected, the pretest also yields no experimental and control group differences.

An analysis of variance table for the post-test data is presented in Table 29.

TABLE 29

Analysis of Variance Table

Spring, 1968

Post-Test Data

Source of Variation	Degrees of Freedom	Sum of Squares	Mean Squares	F
C	1	0.94	0.94	.02
S	1	10.78	10.78	.27
E	1	14.64	14.64	.37
CxS	1	68.44	68.44	1.71
CxE	1	14.83	14.83	.37
SxE	1	2.00	2.00	.05
CxSxE	1	4.04	4.04	.10
Error	29	1159.42	39.98	
Total	36			

Hypotheses regarding differences between teachers from urban and rural communities, elementary teachers and secondary school teachers, and control conditions and the interaction between these variables would be rejected at the 0.05 level if the computed F value exceeded 4.2. Since none of the F values exceeded 4.2, no differences between variable levels are found to be significant.

The fact that the special training workshop was not effective in significantly raising the scores of teachers taking the SKI merits comment. As the first group of teachers in the county to volunteer to be involved in teaching sex education (and the first to be involved in the special training), they may already have acquired the knowledge expertise which the workshop was intended to inculcate. It also seems reasonable that these teachers may have gained other kinds of knowledge and understandings not measured by the SKI test on questions dealing with sex. In any event, the reader should withhold judgment until additional data on succeeding training groups have been secured.*

Analysis of Family Life Attitude Inventory Responses

At the time of the post-test, the Family Life Attitude Inventory (FLAI) was administered to all teachers in both the experimental and control groups. The reader will recall that the inventory consisted of fourty-four statements each of which had seven possible response categories from "disagree very strongly" to "agree very strongly." For purposes of analysis, each of these categories was given a numerical rating from 1 for "disagree very strongly" to 7 for "agree very strongly." The response category associated with the numerical value 4 was used for the "not able to respond" category. Each of the items was classified in one of four groups related to (1) the schools, (2) the families, (3) the communities, and (4) the teacher's concern for family life and sex education.

Analysis of the responses gives an idea of the attitude of the participants toward factors assumed to be specifically related to family life and sex education. The means, standard deviations, and items of the four categories for experimental and control groups are reported in Table 30 and 31, respectively. The items are listed within each category in descending order of the degree of agreement with their statements.

---

*In a separate study of a subsequent group, statistically significant gains in the knowledge level of experimental teachers was found. See Jerry D. McCarn, In-Service Teacher Training: An Evaluation. Unpublished Ph.D thesis, University of California, Berkeley, 1969.

Table 30. Mean Responses to the Family Life Attitude Inventory Items in the Four Categories for the Experimental Teachers

Category 1. The school in family life and sex education:

Item number	Item statement	Mean	Standard deviation
3	Students need more knowledge concerning their relationships to their families.	6.58	0.57
1	The school should make a contribution to strengthening the students' understanding of his sexual behavior patterns.	6.46	0.71
9	I feel that students want classes in sex education and family living.	6.38	0.70
7	Classes concerning sex and reproduction should be co-educational.	6.21	0.82
2	The home is the most appropriate place for students to learn about matters concerning sex.	5.67	1.18
4	In matters pertinent to sex and reproduction, the student is instructed best by the school.	4.96	1.31
8	Students' "slang" about matters concerning sex act as communication barriers between students and adults.	4.71	1.57
11	The church is the most appropriate place for students to receive instruction toward the development of a healthy sexuality.	2.75	1.09
5	Controversial matters concerning sex education and family living should not be taught to students by the school.	2.00	1.04
6	Sex education should be taught to students only after they have reached the stage of puberty.	1.83	1.11
10	Learning about sex and reproduction at an early age will lead to promiscuous activity by students at a later age.	1.75	1.23

Category 2. The family in family life and sex education:

Item number	Item statement	Mean	Standard deviation
18	In order to understand what it is the schools are trying to accomplish, parents should be given instruction and information concerning controversial subject matters.	6.38	0.86
21	Communication problems between parents and children are a necessary part of a program in family life education.	6.17	0.99
12	Matters concerning family interrelationships should be a part of the school curriculum.	6.08	0.86
19	Students should be presented the negative as well as the positive aspects of family living.	5.75	1.01
17	Influence of the modern world on the family has made it necessary that the school assume a larger part of the responsibility for developing moral and ethical values in students.	5.50	0.71
16	Family unity and communication is decreasing in modern society.	5.38	1.15
14	Parents' approval should be acquired before discussing controversial subjects concerning reproduction and sexual behavior in the classroom.	4.75	1.39
15	Parents should be provided the opportunity to sanction or refute controversial subject matter taught in the school system.	4.46	1.15
20	Parent-children relationships are things that must be learned by experiencing them.	4.13	1.20
22	The churches should take over the chief responsibility for educating people for better personal and family living.	2.67	1.11
13	Parents should leave matters concerning sex education to the school systems.	1.96	0.93

Category 3. The community in family life and sex education:

Item number	Item statement	Mean	Standard deviation
31	Community programs are needed concerning sex education.	6.17	0.80
24	Community support is an essential factor if the school is to teach a course in sex education to the students.	5.88	1.09
32	If communities were more aware of the problems of youth, the schools would have less opposition in the development and implementation of such subjects as sex education and human reproduction.	5.54	1.44
30	The public must be "prepared" by the schools before controversial subject matter will be accepted by the community.	5.38	1.03
29	Lack of communication between the community and the schools is a key problem in initiating courses related to sex education and family living.	5.21	1.19
33	Our Puritan heritage has tended to slow down the development of sex education programs in our schools.	5.17	1.52
28	Due to its effect on the community, publicity has delayed the development of needed courses concerning sex education.	5.08	1.22
27	There should be more community participation in matters concerning the school curriculum.	5.04	1.10
26	The average member of a community is concerned about the school curriculum only when something controversial is introduced or implemented.	4.58	1.22
25	Communities in general are too conservative to give controversial subject matters a fair chance in the schools.	3.63	1.25
23	The community is not ready to accept the teaching of sex education in the school system.	3.38	1.11

Category 4. The teacher in family life and sex education:

Item number	Item statement	Mean	Standard deviation
39	In teaching sex education the schools should begin in kindergarten and continue in phase with the maturation of individual students through the 12th grade.	6.42	0.81
34	The teacher has an important role in helping students learn what it is to be a man or woman in our modern society.	6.08	0.81
36	Developing a healthy sexuality in students should be a responsibility of teachers at all grade levels.	6.08	1.00
35	Extensive preparation is necessary before a teacher is qualified to teach a course dealing with the psycho-sexual development of students.	5.75	1.16
42	In teaching "touchy" or controversial subject matter, teachers need to have in-depth training in communicating and sensing what their students are thinking.	5.58	1.15
38	Teaching or developing school programs should be in close cooperation with parents and parent groups.	5.54	1.22
37	Teaching a unit or course in family life education would be better than implementing related concepts into the content of other courses.	5.25	1.33
44	Religious backgrounds of teachers may hinder their ability to effectively handle courses related to sex education and family living.	4.33	1.18
41	A teacher of sex education should avoid open discussions within the classroom about controversial topics concerning intercourse.	3.13	1.13
40	Teachers should avoid teaching about contraceptive methods in the classroom.	3.08	1.22
43	Even without special training in sex education most teachers already possess the qualifications to teach such subject matter in the schools.	3.04	1.31

Table 31. Mean Responses to the Family Life Attitude Inventory Items in the Four Categories for the Control Group

Category 1. The school in family life and sex education:

Item number	Item statement	Mean	Standard deviation
3	Students need more knowledge concerning their relationships to their families.	6.85	0.36
9	I feel that students want classes in sex education and family living.	6.62	0.62
1	The school should make a contribution to strengthening the students' understanding of his sexual behavior patterns.	6.31	0.82
7	Classes concerning sex and reproduction should be co-educational.	5.62	0.74
4	In matters pertinent to sex and reproduction, the student is instructed best by the school.	5.31	1.20
2	The home is the most appropriate place for students to learn about matters concerning sex.	5.31	1.26
8	Students' "slang" about matters concerning sex act as communication barriers between students and adults.	4.62	1.44
11	The church is the most appropriate place for students to receive instruction toward the development of a healthy sexuality.	2.62	0.74
5	Controversial matters concerning sex education and family living should not be taught to students by the school.	2.31	0.91
6	Sex education should be taught to students only after they have reached the stage of puberty.	1.92	0.92
10	Learning about sex and reproduction at an early age will lead to promiscuous activity by students at a later age.	1.62	0.74

Category 2. The family in family life and sex education:

Item number	Item statement	Mean	Standard deviation
21	Communication problems between parents and children are a necessary part of a program in family life education.	6.38	0.74
12	Matters concerning family interrelationships should be a part of the school curriculum.	6.31	0.72
18	In order to understand what it is the schools are trying to accomplish, parents should be given information and instruction concerning controversial subject matters.	6.23	0.89
19	Students should be presented the negative as well as the positive aspects of family living.	6.08	0.83
16	Family unity and communication is decreasing in modern society.	5.62	1.08
17	Influence of the modern world on the family has made it necessary that the school assume a large part of the responsibility for developing moral and ethical values in students.	5.54	1.01
20	Parent-children relationships are things that must be learned by experiencing them.	4.85	1.41
15	Parents should be provided the opportunity to sanction or refute controversial subject matter taught in the school system.	4.31	1.32
14	Parents' approval should be acquired before discussing controversial subjects concerning reproduction and sexual behavior in the classroom.	4.23	1.19
22	The churches should take over the chief responsibility for educating people for better personal and family living.	3.23	1.12
13	Parents should leave matters concerning sex education to the school systems.	2.15	0.95

Category 3. The community in family life and sex education:

Item number	Item statement	Mean	Standard deviation
31	Community programs are needed concerning sex education.	6.15	0.86
32	If communities were more aware of the problems of youth, the schools would have less opposition in the development and implementation of such subjects as sex education and human reproduction.	6.00	1.11
24	Community support is an essential factor if the school is to teach a course in sex education to the students.	5.77	0.80
30	The public must be "prepared" by the schools before controversial subject matter will be accepted by the community.	5.69	0.72
28	Due to its effect on the community, publicity has delayed the development of needed courses concerning sex education.	5.69	1.14
33	Our Puritan heritage has tended to slow down the development of sex education programs in our schools.	5.54	1.01
29	Lack of communication between the community and the schools is a key problem in initiating courses related to sex education and family living.	5.38	1.15
26	The average member of a community is concerned about the school curriculum only when something controversial is introduced or implemented.	5.15	1.51
25	Communities in general are too conservative to give controversial subject matters a fair chance in the schools.	4.31	1.26
27	There should be more community participation in matters concerning the school curriculum.	4.08	1.77
23	The community is not ready to accept the teaching of sex education in the school system.	3.31	0.99

Category 4. The teacher in family life and sex education:

Item number	Item statement	Mean	Standard deviation
39	In teaching sex education the schools should begin in kindergarten and continue in phase with the maturation of individual students through the 12th grade.	6.69	0.61
34	The teacher has an important role in helping students learn what it is to be a man or woman in our modern society.	6.38	0.62
36	Developing a healthy sexuality in students should be a responsibility of teachers at all grade levels.	6.38	0.74
42	In teaching "touchy" or controversial subject matter, teachers need to have in-depth training in communicating and sensing what their students are thinking.	6.15	0.77
35	Extensive preparation is necessary before a teacher is qualified to teach a course dealing with the psycho-sexual development of students.	5.38	1.86
38	Teaching or developing school programs should be in close cooperation with parents and parent groups.	5.31	1.20
37	Teaching a unit or course in family life education would be better than implementing related concepts into the content of other courses.	4.92	1.64
44	Religious backgrounds of teachers may hinder their ability to effectively handle courses related to sex education and family living.	4.69	1.44
41	A teacher of sex education should avoid open discussions within the classroom about controversial topics concerning intercourse.	3.15	1.17
40	Teachers should avoid teaching about contraceptive methods in the classroom.	3.15	1.46
43	Even without special training in sex education most teachers already possess the qualifications to teach such subject matter in the schools.	2.92	1.33

The mean responses to the individual items provides a basis for describing the responses of the two groups. Both the experimental and control teachers were convinced that the schools should provide instruction in family life and sex education in order to meet the needs and desires of students. They felt that it was important to teach about sex and reproduction to students at an early age and that this would not lead to promiscuous activity at a later age and that the school should make a contribution to students' understanding of their sexual behavior patterns, yet that the home was more appropriate to learn about sex.

Both groups of teachers thought that parents should be provided information and instruction concerning controversial subject matter; however, they were less enthusiastic about acquiring parental approval before discussing reproduction or sexual behavior in the classroom. They felt that students should be given both the positive and negative aspects of family interrelations. Subjects also thought that parents should not necessarily leave matters concerning sex education to the school system. They were concerned about communication problems between parents and children and about parental understanding of school policy concerning controversial subject matters.

In matters concerning the community, both the experimental and control teachers felt that not only were community programs needed but communities had to be made "aware" in order to support family life and sex education in the schools. Concern for conservative backgrounds and lack of communication as key problems in initiating programs in family life and sex education was evident. They were more concerned about the adverse effects caused by publicity about sex education and with the lack of communication between the schools and communities in initiating courses related to sex education and family living.

While the mean responses on individual items yield a good deal of information on the attitudes of the teachers, the pattern of responses on various groups of items can also reveal significant information. Since one of the objectives of this study is to determine the differences in attitudes resulting from the degree of involvement in a program of family life education, and since the group means on the FLAI did not differ very much, it was decided to look at the patterns of responses for the two groups.

Data from the FLAI were subjected to Tyron's Cluster Analysis procedures. These procedures yield clusters that contain items which correlate with each other, show similar patterns of correlations with other items, and have similarity to each other. The degree to which each item correlates with its particular cluster is indicated by the oblique factor coefficient.

The clusters found to be significant for the experimental and control groups are presented in Tables 32 and 33, respectively. The oblique factor coefficient, defining variables, lower bound of the factor coefficient, reliability coefficient of the cluster scores, and a definition of high and low scores[1] are presented for each of six clusters.

---

[1] High scores result from agreement with items having positive factor coefficients and disagreement with items having negative coefficients. The reversal of responses produces low scores.

Table 32. Attitude Clusters Resulting from Factoring the FLAI Data for the Experimental Teachers

Cluster 1. Need for Programs

Item Number	Item statement	Oblique factor coefficient
12 (D)*	Matters concerning family interrelationships should be a part of the school curriculum.	.83
9 (D)	I feel that students want classes in sex education and family living.	.83
10 (D)	Learning about sex and reproduction at an early age will lead to promiscuous activity by students at a later age.	-.83
34 (D)	The teacher has an important role in helping students learn what it is to be a man or woman in our modern society.	.68

LBFC = 0.70**
Reliability (D) = 0.90***

High scorers on this dimension feel that programs are needed to aid students learning and understanding of family life and sex education. They feel that the school should play an important role and that promiscuity will not result from learning about sex and reproduction at an early age.

Low scorers question the need for programs in family life and sex education, the school's role in these programs, and believe such programs would lead to increased promiscuity among the students.

Cluster 2. Communication - a key problem in family life programs

30 (D)	The public must be "prepared" by the schools before controversial subject matter will be accepted by the community.	.88
17 (D)	Influence of the modern world on the family has made it necessary that the school assume a large part of the responsibility for developing moral and ethical values in students.	.71
41	A teacher of sex education should avoid open discussions within the classroom about controversial topics concerning intercourse.	.70
24 (D)	Community support is an essential factor if the school is to teach a course in sex education to the students.	.66
29	Lack of communication between the community and the schools is a key problem in initiating courses related to sex education and family living.	.57

*(D) - Denotes a defining varialbe.
**LBFC - Lower bound of factor coefficient that (theoretically) maximizes the C-reliability.
***Reliability (D) - Reliability coefficient of cluster score on full set of defining variables.

LBFC = 0.60
Reliability (D) = 0.86

High scorers on this dimension believe that community support through communications between the schools and the community is essential if schools are to teach courses in family life and sex education to the students.

Low scorers, on the other hand, are not concerned about communication between the schools and community and that teachers should avoid discussion of certain controversial subjects in the classroom.

Cluster 3. Role of Church in Family Life and Sex Education

Item Number	Item statement	Oblique factor coefficient
11 (D)	I feel that students want classes in sex education and family living.	.87
7 (D)	Classes concerning sex and reproduction should be co-educational.	-.75
13 (D)	Parents should leave matters concerning sex education to the school systems.	.71
5	Controversial matters concerning sex education and family living should not be taught to students by the school.	.69
22 (D)	The churches should take over the chier responsibility for educating people for better personal and family living.	.67
6	Sex education should be taught to students only after they have reached the stage of puberty.	.62

LBFC = 0.60
Reliability (D) = 0.86

High scorers believe that the church is the most appropriate place for students to gain information concerning sex and reproduction. Further, they believe classes should not be co-educational and should be given only after students have reached the stage of puberty.

Low scorers on this dimension feel that the church is not the most appropriate place to learn about sex and reproduction and that the schools should assume part of the responsibility for this.

Cluster 4. Awareness of Community and Parents

16 (D)	Family unity and communication is decreasing in modern society.	.74
38 (D)	Teaching or devleoping school programs should be in close cooperation with parents and parent groups.	.65

Table 32 (cont'd)

Item Number	Item statement	Oblique factor Coefficient
32 (D)	If communities were more aware of the problems of youth, the schools would have less opposition in the development and implementation of such subjects as sex education and human reproduction.	.61

LBFC = 0.64
Reliability (D) = 0.86

High scorers on this dimension feel that a lack of awareness of the problems that concern youth can be aleviated by closer cooperation between schools and parents in developing school programs.

Low scorers fail to recognize that this lack of awareness and cooperation exists.

Cluster 5. Need for Teacher Preparation in Family Life Education

43 (D)	Even without special training in sex education most teachers already possess the qualifications to teach such subject matter in the schools.	-.84
35 (D)	Extensive preparation is necessary before a teacher is qualified to teach a course dealing with the psycho-sexual development of students.	.73
37 (D)	Teaching a unit or course in family life education would be better than implementing related concepts into the content of other courses.	.69

High scorers believe that extensive preparation is necessary before teachers can adequately teach a course dealing with the psycho-sexual development of students. Further, they feel courses are better than implementing concepts into existing curricula.

Low scorers on this dimension feel that most teachers are qualified to teach family life and sex education without any special in-depth training experience.

Table 33 Attitude Clusters Resulting from Factoring the FIAI Data for the Control Teachers

Cluster 1. Sex Education and the School System

Item Number	Item Statement	Oblique factor Coefficient
13 (D)	Parents should leave matters concerning sex education to the school systems.	-1.01
30 (D)	The public must be "prepared" by the schools before controversial subject matter will be accepted by the community.	.84
16	Family unity and communication is decreasing in modern society.	.75
28 (D)	Due to its effect on the community, publicity has delayed the development of needed courses concerning sex education.	.74

LBFC = 0.74
Reliability (D) = 0.93

High scorers on this dimension believe very strongly that parents should not leave matters concerning sex education to the schools, that publicity has delayed development of needed programs in sex education, and that the public must be "prepared" before they will accept controversial subject matter in the school.

Low scorers feel that the schools should take over the parents' responsibility of teaching sex education to the students.

Cluster 2. Need for Programs in Family Life and Sex Education

Item Number	Item Statement	Oblique factor Coefficient
6 (D)	Sex education should be taught to students only after they have reached the stage of puberty.	-.91
9 (D)	I feel the students want classes in sex education and family living.	.88
1 (D)	The school should make a contribution to strengthening of the students' understanding of his sexual behavior patterns.	.83
31 (D)	Community programs are needed concerning sex education.	.74

LBFC = 0.78
Reliability (D) = 0.94

High scorers believe that schools should help provide needed programs in family life and sex education to strengthen students' understanding of sex and reproduction before they reach the stage of puberty.

Low scorers are not concerned with the need for these programs nor the school's role in providing them.

Table 33. (cont'd)

Cluster 3. Topics to avoid

Item Number	Item Statement	Oblique Factor Coefficient
40 (D)	Teachers should avoid teaching about contraceptive methods in the classroom.	.82
41 (D)	A teacher of sex education should avoid open discussions within the classroom about controversial topics concerning intercourse.	.70
11 (D)	The church is the most appropriate place for students to receive instruction toward the development of a healthy sexuality.	.68
38	Teaching or developing school programs should be in close cooperation with parents and parent groups.	-.65

LBFC = 0.63
Reliability (D) = 0.87

High scorers feel that the school should develop programs in close cooperation with parents and that teachers should avoid certain controversial topics in the classroom.

Low scorers on this dimension do not feel that teachers should avoid discussing controversial topics in the classroom.

Cluster 4. Readiness for Family Life and Sex Education

Item Number	Item Statement	Oblique Factor Coefficient
3 (D)	Students need more knowledge concerning their relationships to their families.	.85
23 (D)	The community is not ready to accept the teaching of sex education in the school system.	-.71
27 (D)	There should be more community participation in matters concerning the school curriculum.	.56

LBFC = 0.63
Reliability (D) = 0.86

High scorers on this dimension believe that students need more knowledge concerning their relationships that communities are ready to accept the teaching of sex education by the schools.

Low scorers do not feel that communities are ready to accept the teaching of sex education by the school system.

Table 33 (cont'd)

Cluster 5. Responsibility for Teaching Family Life and Sex Education

Item Number	Item Statement	Oblique Factor Coefficient
22 (D)	The churches should take over the chief responsibility for educating people for better personal and family living.	.80
15 (D)	Parents should be provided the opportunity to sanction or refute controversial subject matter taught in the school system.	.74
16 (D)	Family unity and communication is decreasing in modern society.	-.71
32 (D)	If communities were more aware of the problems of youth, the schools would have less opposition in the development and implementation of such subjects as sex education and human reproduction.	.64

LBFC = 0.63
Reliability (D) = 0.87

High scorers on this dimension believe that the church should assume a larger role in educating people for better personal and family living and that communications between schools and the communities and parental involvement is necessary before controversial subject matter can be taught in the schools.

Low scorers question the church's role, as well as community involvement in developing programs in controversial areas.

Analysis of the FLAI data for response patterns on various groups of items reveals that the experimental group of teachers recognized the need for programs in family life and sex education, felt that the schools should play an important role, that communication and cooperation between schools and community is necessary before controversial subjects can be taught in the schools, that teachers need in-depth training in the area to qualify them to teach family life education, and also that the church should play an important role in personal and family relationships.

The control group were concerned with community preparation and parental cooperation in the development and implementation of programs in family life education. The control group also recognized the need for programs in family life and sex education, felt that communities were ready to accept these programs, and, like the experimental teachers, felt the church should assume a larger role in personal and family relationships.

Analysis of Family Life Education Q-Sort Responses

At the end of the 30-hour workshop, the Family Life Education Q-Sort (FLEQ) was given to the experimental teachers. Mean scores and standard deviations are reported for each of the items. The items are grouped into five categories related to (1) knowledge gained and other outcomes of the workshop; (2) value of instructional procedures used in the workshop; (3) value of the curriculum of the workshop; (4) attitudes of participants about family life and sex education, and (5) attitudes of participants toward the workshop. Table 34 shows the categories with the items listed in descending order of the degree of agreement with their statements (a mean of 7 represents very strong agreement while a mean of 1 represents very strong disagreement with the item statement).

Table 34. Mean Responses on Individual Items

Category 1. Knowledge gained about family life and sex education and other outcomes of the workshop:

Item number	Item statement	Mean	Standard Deviation
6	This project convinced me that students should have more knowledge about family relations than is obtained in the home.	6.23	1.21
8	This project increased my knowledge about communication and social relationships.	6.04	1.25
9	Consultants who themselves had participated in family life education offered valuable advice on teaching sex education.	5.80	1.21
5	This project increased my knowledge of family life education and its position in schools.	5.79	1.36
14	This project convinced me that students should have a biological self-understanding.	5.66	1.42
13	This project increased my understanding of the importance of emotional development of children.	5.49	1.28
51	I learned very little from the project about the effects of a home environment upon a student's sexual conduct.	3.30	1.33
55	As a result of the project I am only slightly better qualified to teach sex education than I was before the project started.	3.10	1.54
52	This project made me only slightly more aware of the moral and ethical aspects of teaching family life education.	3.00	1.47
7	I learned more from my fellow participants than I did from the leaders and other experts who spoke to us.	2.82	1.08

Table 34

Category 1. (Continued)

Item number	Item statement	Mean	Standard deviation
48	I learned very little from the project about instructional materials and curricula for family life education.	2.72	1.93
49	This project contributed little to my awareness of the problems that confront the youth of today.	2.67	1.54
54	This project did little to increase my awareness of the resource materials available for family life education.	2.44	1.41

Category 2. Value of instructional procedures used in the workshop:

Item number	Item statement	Mean	Standard deviation
22	The lectures in the project were valuable to me.	6.17	1.05
24	The discussion following formal presentations was valuable to me.	5.60	1.14
38	Those sessions when participants were absolutely frank, and even angry, were valuable.	5.42	1.32
23	The panel discussions in the project were valuable to me.	4.92	1.65
34	Consultants who worked with teachers individually or in small groups were helpful.	4.86	1.87
31	Working together in small groups was important to me.	4.72	1.98
33	Meeting agency workers, community leaders, or other non-school personnel was worthwhile.	4.63	1.68
17	The small work group sessions were helpful to me.	4.60	1.53
30	Being together in one large group for activities was important to me.	3.99	1.39
21	Observing the teaching of sex education was worthwhile.	3.83	2.10
42	Too often in the project, I was just listening or watching, rather than actively doing something.	3.32	1.48
39	The activities which "just happened" were of more value than those that were planned.	3.26	1.42

Table 34

Category 2. (Continued)

Item number	Item statement	Mean	Standard deviation
27	The role-playing which we did in the project was of value.	2.63	1.99
40	Having contact with parents and members of the community was worthwhile.	2.54	1.53
26	The reading which I did as part of the project was of value.	2.42	1.54
32	Working by myself was important to me.	1.72	1.12
16	Visiting other projects similar to ours was worthwhile.	1.65	1.12
20	The actual teaching or tutoring which I did as part of the project was valuable.	1.47	.96
29	Doing the assigned written work was worthwhile.	1.40	1.39

Category 3. Value of the curriculum of the workshop:

Item number	Item statement	Mean	Standard deviation
35	The material on the communication problems of children was valuable.	6.09	1.19
36	The special instructional materials for family life education were valuable.	5.30	1.27
2	The material on human reproduction was valuable.	5.26	1.39
1	The material on human growth and development was valuable.	5.23	1.38
37	The material on teaching methods for sex education was valuable.	5.13	1.51
18	The material on how to teach specific subjects (sex, family relations, family sociology, etc.) to students was valuable.	4.98	1.47

Table 34

Category 3. (Continued)

Item number	Item statement	Mean	Standard deviation
41	The material on the teacher's emotional preparation was valuable.	4.93	1.87
19	The material on curricula development for family life education was valuable.	4.87	1.39
25	The films, records, tapes, etc. were valuable to me.	4.64	1.70
10	Developing skills and techniques for teaching family life education was a major part of this project.	4.49	1.55
28	The replaying of activities through video or audio tapes was of value.	4.44	1.99

Category 4. Attitudes of participants about family life and sex education:

Item number	Item statement	Mean	Standard deviation
12	I am more self-confident in dealing with sex education as a result of this project.	5.86	1.52
11	This project has led me to feel that students need more individual attention on problems concerning sexual maturity.	4.99	1.64
15	As a result of this project I intend to become more familiar with the background on the sexual behavior of my students.	4.32	1.64
44	This project put too much emphasis upon the sexual problems of students.	2.60	1.38
4	I have to admit that I am as critical of sex education as I was before this project began.	1.39	.88

Table 34

Category 5. Attitudes of participants toward the workshop:

Item number	Item statement	Mean	Standard deviation
50	Curriculum development was not sufficiently covered in this project.	4.20	1.52
46	Project instructors covered the material too quickly.	3.62	1.32
47	The leaders put too much emphasis on dispensing information and not enough on getting us to explore our feelings.	3.57	1.31
3	The project was too "middle class" in its philosophy and operation.	3.46	1.85
53	There was little emphasis on major evaluation.	3.23	1.31
56	A better project would have resulted if participants had had a bigger part in its planning.	2.93	1.28
43	A better project would have resulted if participants had made more of the decisions about its day-to-day operations.	2.77	1.48
45	This project's format should be changed.	2.56	1.31

In order to obtain a clearer picture of the workshop and its influences, the highest and lowest mean responses on the items of each of the five categories are reported. Table 35 shows the five categories. Those items above the dotted line show the highest agreement and those below the line show the lowest agreement with the item statement.

Table 35. Highest and Lowest Mean Responses on the Items

Category 1. Knowledge gained about family life and sex education and other outcomes of the workshop:

Item number	Item statement	Mean	Standard deviation
6	This project convinced me that students should have more knowledge about family relations than is obtained in the home.	6.23	1.21
8	This project increased my knowledge about communication and social relationships.	6.04	1.25
- - -	- - - - - - - - - - - - - - - - - - - -	- - -	- - -
49	This project contributed little to my awareness of the problems that confront the youth of today.	2.67	1.54
54	This project did little to increase my awareness of the resource materials available for family life education.	2.44	1.41

Category 2. Value of instructional procedures used in the workshop:

Item number	Item statement	Mean	Standard deviation
22	The lectures in the project were valuable to me.	6.17	1.05
24	The discussion following formal presentations was valuable to me.	5.60	1.14
38	Those sessions when participants were absolutely frank, and even angry, were valuable.	5.42	1.32
- - -	- - - - - - - - - - - - - - - - - - - -	- - -	- - -

Table 35.

Category 2 (Continued)

Item number	Item statement	Mean	Standard deviation
16	Visiting other projects similar to ours was worthwhile.	1.65	1.12
20	The actual teaching or tutoring which I did as part of the project was valuable.	1.47	.96
29	Doing the assigned written work was worthwhile.	1.40	1.39

Category 3. Value of the curriculum of the workshop:

Item number	Item statement	Mean	Standard deviation
35	The material on the communication problems of children was valuable.	6.09	1.19
36	The special instructional materials for family life education were valuable.	5.30	1.27
10	Developing skills and techniques for teaching family life education was a major part of this project.	4.49	1.55
28	The replaying of activities through video or audio tapes was of value.	3.44	1.99

Category 4. Attitudes of participants about family life and sex education:

Item number	Item statement	Mean	Standard deviation
12	I am more self-confident in dealing with sex education as a result of this project.	5.86	1.52
11	This project has led me to feel that students need more individual attention on problems concerning sexual maturity.	4.99	1.64

Table 35.

Category 4. (Continued)

Item number	Item statement	Mean	Standard deviation
44	This project put too much emphasis upon the sexual problems of students.	2.60	1.38
4	I have to admit that I am as critical of sex education as I was before this project began.	1.39	.88

Category 5. Attitudes of participants toward the workshop:

Item number	Item statement	Mean	Standard deviation
50	Curriculum development was not sufficiently covered in this project.	4.20	1.52
46	Project instructors covered the material too quickly.	3.62	1.32
43	A better project would have resulted if participants had made more of the decisions about its day-to-day operations.	2.77	1.48
45	This project's format should be changed.	2.56	1.31

The mean reponses provide a framework from which certain results can be examined more closely. The participant teachers were convinced the workshop did have an effect on them--not only were they made cognizant of the need that students have for more knowledge relative to family life and sex education but they were enthusiastic about the amount and variety of knowledge they gained through the workshop experience.

In assessing the value of the instructional procedures used in the workshop, the participants thoughtthat the lectures, discussions following formal presentations, and the absolute and frank manner with which materials were presented were of value. With less certainty, the teachers felt that small group sessions added to the workshop's value in presenting the materials.

The value of the workshop curriculum is evidenced by the strong agreement with those item statements related to the curriculum. The participating teachers felt that the materials on communication problems of children, human reproduction, human growth and development, and methods of teaching family life and sex education were of value in preparing them to teach in the classroom.

Even though they felt more confident, the teachers were somewhat skeptical about the workshop's influence on their attitudes and beliefs. However, the participants did indicate that the workshop influenced their thinking on the students' need for individual attention concerning problems of sexual maturity.

In responses to items about the workshop in general, the participants indicated approval of the workshop operations. A look at the means for the item statements indicates that the participants felt the workshop operations could have been improved. However, this was not held to be one of the essential factors that needed to be changed.

Not only did the workshop increase the teachers' awareness of student need for knowledge concerning family life and the amount and variety of knowledge they gained but it also contributed to the teachers' awareness of the problems confronting the youth of today and the resource materials available in this area.

The teachers felt that the workshop procedures of lecturing and discussions were sufficient. No need was indicated for visiting other projects, peer teaching in family life, or doing any assigned written work.

The participants believed the materials presented were adequate: However, they felt more emphasis could have been placed on developing skills and techniques for teaching family life education.

The workshop increased the self-confidence of the teachers as well as made them less critical of sex education. The need for more and better sex education programs was a recognized factor.

The participants expressed general approval of the workshop's structure and format. They did not want to participate in decision-making related to the project.

The general concensus was that the workshop was an effective means of in-service teacher training in family life education. The participants were satisfied with the materials presented, the techniques used, and the overall curriculum of the workshop. Participants expressed general satisfaction with the knowledge gained and resources made available. However, it was apparent that some of the participants were concerned with the lack of emphasis on developing skills and techniques for presenting family life and sex education in the classroom.

While the mean responses on individual items yield a good deal of information in themselves, the pattern of responses on various groups of items can also be significant. To look for patterns of responses, it was decided to subject the Q-sort data to cluster analysis. Using Tyron's cluster analysis, five different runs were made. Initially all teachers were put through the analysis.

Next, four groups were formed consisting of (Urban, Elementary),(Urban, Secondary), (Rural, Elementary), and (Rural, Secondary). Each of these four partitions was run separately through the cluster analysis program.

Table 36 reports the six clusters, or factors, which resulted with the oblique factor coefficient being shown for each item and a definition of high and low scores on each cluster being offered.

Table 36. Participant's Views Regarding the Workshop Experience: Overall Cluster Analysis of Responses to the Q-Sort

Cluster 1. (Value of interpersonal communication)

Item number	Item Statement	Oblique factor coefficient
39 (D)	The activities which "just happened" were of more value than those that were planned.	.87
7 (D)	I learned more from my fellow participants than I did from the leaders and other experts who spoke to us.	.56
49	This project contributed little to my awareness of the problems that confront the youth of today.	-.33

LBFC = .51
Reliability (D) = 0.70

High scores on this first dimension believed that the unplanned and spontaneous interactions with fellow participants were more valuable than those activities of a formal nature.

Low scores believed that the planned activities contributed to their awareness of the problems confronting the youth of today.

Table 36 (continued)

Cluster 2. (Value of working in small groups)

Item number	Item statement	Oblique factor coefficient
17 (D)	The small work group sessions were helpful to me.	.81
31 (D)	Working together in small groups was important to me.	.71
36	The special instructional materials for family life education were valuable.	-.32

LBFC = 0.54
Reliability (D) = 0.74

High scores believed that working in small group sessions was more beneficial to them than being in a large heterogeneous group.

Low scores preferred the larger group sessions and lectures.

Cluster 3. (Role of school in teaching family life education)

Item number	Item statement	Oblique factor coefficient
6 (D)	This project convinced me that students should have more knowledge about family relations than is obtained in the home.	.81
40 (D)	Having contact with parents and members of the community was worthwhile.	-.59
14 (D)	This project convinced me that students should have a biological self-understanding.	.58
16	Visiting other projects similar to ours was worthwhile.	-.50
13	This project increased my understanding of the importance of emotional development of children.	.44

LBFC = 0.48
Reliability (D) = 0.74

High scores were convinced that students should have more knowledge concerning family relations and a deeper understanding of their biological make-up. They also believed that contact with community members and other projects was not essential to a good teacher training program.

Low scores were not convinced of these student needs and felt that more contact with members of the community and other projects was worthwhile.

Table 36 (continued)

Cluster 4. (Value of workshop's curricula and methods)

Item number	Item statement	Oblique factor coefficient
54 (D)	This project did little to increase my awareness of the resource materials available for family life education.	.73
5	This project increased my knowledge of family life education and its position in schools.	-.59
4 (D)	I have to admit that I am as critical of sex education as I was before this project began.	.53
48 (D)	I learned very little from the project about instructional materials and curricula for family life education.	.52
3 (D)	The project was too "middle class" in its philosophy and operation.	.51

LBFC = 0.36
Reliability (D) = 0.67

High scores on this dimension are critical of the workshops - its lack of influence on knowledge, its "middle class" philosophy, its lack of presentations of resource materials, and lack of instructional materials.

Low scores approves of the workshop and failed to criticize it as cited above.

Cluster 5. (Participants' role in the planning and operation of the workshop)

Item number	Item statement	Oblique factor coefficient
43 (D)	A better project would have resulted if participants had made more of the decisions about its day-to-day operations.	.76
56 (D)	A better project would have resulted if participants had had a bigger part in its planning.	.59
41	The material on the teacher's emotional preparation was valuable.	-.54
21 (D)	Observing the teaching of sex education was worthwhile.	-.53

LBFC = 0.45
Reliability (D) = 0.71

Table 36 (continued)

Cluster 5. (continued)

High scores on this dimension felt a better program would have resulted if participants had been able to be in on the planning and decision making.

Low scores were less critical and believed the program was run well by the leaders.

Cluster 6. (Value of workshop materials)

Item number	Item statement	Oblique factor coefficient
2 (D)	The material on human reproduction was valuable.	.85
1 (D)	The material on human growth and development was valuable.	.74
22 (D)	The lectures in the project were valuable to me.	.31

LBFC = 0.61
Reliability (D) = 0.79

High scores felt the materials presented in the workshop were of value and that the workshop had contributed greatly to their awareness of the resource materials available for family life education.

Low scores were less enthusiastic about the workshop's materials and its contributions to the awareness of the resource materials available.

Table 37 presents the clusters for *each* of four groups of teachers along with the oblique factor coefficients and a definition of high and low scores on each cluster.

Table 37. Participant's Views Regarding the Workshop Experience: Overall Cluster Analysis of Responses to the Q-sort

I. Cluster Analysis of the Responses of Urban Elementary School Teachers.

Cluster 1. (Value of workshop organization and curriculum)

Item number	Item statement	Oblique factor coefficient
27 (D)	The role-playing which we did in the project was of value.	.98
20 (D)	The actual teaching or tutoring which I did as part of the project was valuable.	.90
1 (D)	The material on human growth and development was valuable.	-.84
47 (D)	The leaders put too much emphasis on dispensing information and not enough on getting us to explore our feelings.	-.82

Table 37 (continued)

Cluster 1. (Continued)

LBFC = 0.80
Reliability (D) = 0.97

High scores on this dimension believed that the role-playing and teaching or tutoring was valuable to them. However, they were skeptical of parts of the workshop curriculum.

Low scores were more in agreement with the workshop's curriculum and held less value for the role-playing and teaching.

Cluster 2. (Value of workshop's instructional materials)

Item number	Item statement	Oblique factor coefficient
48 (D)	I learned very little from the project about instructional materials and curricula for family life education.	-.91
36 (D)	The special instructional materials for family life education were valuable.	.89
9 (D)	Consultants who themselves had participated in family life education offered valuable advice on teaching sex education.	.88

LBFC = 0.84
Reliability (D) = 0.97

High scores felt the workshop's instructional materials and the consultants offered valuable information on teaching family life and sex education.

Low scores held that these aspects of the workshop were of little or no value.

Cluster 3. (Value of workshop's instructional materials)

Item number	Item statement	Oblique factor coefficient
19 (D)	The material on curricula development for family life education was valuable.	.85
21 (D)	Observing the teaching of sex education was worthwhile.	.84
54 (D)	This project did little to increase my awareness of the resource materials available for family life education.	-.78

LBFC = 0.79
Reliability (D) = 0.92

High scores on this dimension believed that the workshop's instructional materials were effective in preparing teachers in family life education.

Low scores were skeptical about the value of the workshop's instructional materials.

Table 37 (continued)

Cluster 4. (Value of openness among participants)

Item number	Item statement	Oblique factor coefficient
38 (D)	Those sessions when participants were absolutely frank, and even angry, were valuable.	.96
33 (D)	Meeting agency workers, community leaders, or other non-school personnel was worthwhile.	-.81
35 (D)	The material on the communication problems of children was valuable.	.76

LRFC = 0.72
Reliability (D) = 0.94

High scores valued frankness, working with school personnel, and felt that materials on communication were worthwhile.

Low scores preferred less openness and meeting non-school personnel where family life education was concerned.

Cluster 5. (Changes in teachers' concern about student behavior)

Item number	Item statement	Oblique factor coefficient
15 (D)	As a result of this project I intend to become more familiar with the background on the sexual behavior of my students.	.88
8	This project increased my knowledge about communication and social relationships.	.63
49	This project contributed little to my awareness of the problems that confront the youth of today.	-.63
23 (D)	The panel discussions in the project were valuable to me.	.62

LRFC = 0.69
Reliability (D) = 0.94

High scores on this cluster believed that the workshop increased their awareness of the sexual behavior of their students, their communication and social relationships, and other problems that confront the youth of today.

Low scores, on the other hand, did not feel the workshop had made a significant contribution in those areas.

Table 37. (continued)

Cluster 6. (Value of learning by doing in the workshop)

Item number	Item statement	Oblique factor coefficient
42 (D)	Too often in the project, I was just listening or watching, rather than actively doing something.	.88
41 (D)	The material on the teacher's emotional preparation was valuable.	-.73
20 (D)	The actual teaching or tutoring which I did as part of the project was valuable.	.35

LBFC = 0.61
Reliability (D) = 0.97

High scores believed that active participation and teaching were of value and the materials on the teacher's emotional preparation were of little value.

Low scores felt that active participation and teaching were of little or no consequence in learning about family life and sex education.

II. Cluster Analysis of the Responses of the Urban, Secondary School Teachers.

Cluster 1. (Value of learning by doing in the workshop)

Item number	Item statement	Oblique factor coefficient
20 (D)	The actual teaching or tutoring which I did as part of the project was valuable.	.93
45 (D)	This project's format should be changed.	.80
56	A better project would have resulted if participants had had a bigger part in its planning.	.61

LBFC = 0.52
Reliability (D) = 0.89

High scores believed that actively teaching and participating in the workshop was important.

Low scores were less enthusiastic about these aspects.

Table 37 (continued)

Cluster 2. (Changes in teacher self-understanding and confidence)

Item number	Item statement	Oblique factor coefficient
28 (D)	The replaying of activities through video or audio tapes was of value.	-.91
8 (D)	This project increased my knowledge about communication and social relationships.	.90
12 (D)	I am more self-confident in dealing with sex education as a result of this project.	.75
5	This project increased my knowledge of family life education and its position in schools.	.60

LBFC = 0.62
Reliability (D) = 0.93

High scores believed their knowledge and self-confidence had been increased as a result of the workshop experience.

Low scores were less impressed with the workshop's influence upon their knowledge and self-confidence.

Cluster 3. (Value of instructional materials used in the workshop)

Item number	Item statement	Oblique factor coefficient
25 (D)	The films, records, tapes, etc. were valuable to me.	.87
27 (D)	The role-playing which we did in the project was of value.	-.81
18 (D)	The material on how to teach specific subjects (sex, family relations, family sociology, etc.) to students was valuable.	.81

LBFC = 0.74
Reliability (D) = 0.91

High scores felt that the workshop's instructional materials, such as, films, tapes, and how to teach specific subjects, were valuable.

Low scores believed these materials to be less valuable and felt that role-playing was more important.

Table 37 (continued)

Cluster 4. (Value of workshops in stimulating concern for students)

Item number	Item statement	Oblique factor coefficient
11 (D)	This project has led me to feel that students need more individual attention on problems concerning sexual maturity.	.82
52 (D)	This project made me only slightly more aware of the moral and ethical aspects of teaching family life education.	-.78
47 (D)	The leaders put too much emphasis on dispensing information and not enough on getting us to explore our feelings.	.72
36 (D)	The special instructional materials for family life education were valuable.	-.72

LBFC = 0.62
Reliability (D) = 0.88

High scores felt the workshop stimulated a concern for student problems but was lacking in the emotional development of the teachers.

Low scores believed the special instructional materials were of value but that they could be put to better use in the workshop.

Cluster 5. (Value of exposure to outside agencies and resources)

Item number	Item statement	Oblique factor coefficient
6 (D)	This project convinced me that students should have more knowledge about family relations than is obtained in the home.	-.84
40 (D)	Having contact with parents and members of the community was worthwhile.	.82
21 (D)	Observing the teaching of sex education was worthwhile.	.72

LBFC = 0.71
Reliability (D) = 0.91

High scores valued exposure to outside agencies and resources but were apprehensive about the level of knowledge obtained by the students beyond that provided in the home.

Low scores did not feel that outside agencies and resources were essential to an in-service program in family life education.

Table 37 (continued)

Cluster 6. (Value of working in small groups)

Item number	Item statement	Oblique factor coefficient
31 (D)	Working together in small groups was important to me.	.79
17	The small work group sessions were helpful to me.	.65
34 (D)	Consultants who worked with teachers individually or in small groups were helpful.	.63
42	Too often in the project, I was just listening or watching, rather than actively doing something.	-.35
9	Consultants who themselves had participated in family life education offered valuable advice on teaching sex education.	.35

LBFC = 0.41
Reliability (D) = 0.80

High scores on this dimension felt that working in small groups was a valuable technique in learning about family life and sex education.

Low scores were inclined to refute the above and to be more content with large group sessions.

Cluster 7. (Value of workshop curriculum)

Item number	Item statement	Oblique factor coefficient
23 (D)	The panel discussions in the project were valuable to me.	.84
46 (D)	Project instructors covered the material too quickly.	-.73
2	The material on human reproduction was valuable.	.67
39	The activities which "just happened" were of more value than those that were planned.	-.62
1 (D)	The material on human growth and development was valuable.	.59

LBFC = 0.53
Reliability (D) = 0.84

High scores felt the workshop curriculum, i.e., the discussions, the pace with which the instructors covered the materials, the materials on select topics, and the planned activities, was valuable in an in-service training program in family life.

Low scores were less impressed with the workshop curriculum.

Table 37 (continued)

III. Cluster Analysis of the Responses of the Rural, Elementary School Teachers

Cluster 1. (Ineffective features of the workshop)

Item number	Item statement	Oblique factor coefficient
47 (D)	The leaders put too much emphasis on dispensing information and not enough on getting us to explore our feelings.	.97
8 (D)	This project increased my knowledge about communication and social relationships.	-.89
51 (D)	I learned very little from the project about the effects of a home environment upon a student's sexual conduct.	.86
32 (D)	Working by myself was important to me.	.78

LBFC = 0.74
Reliability (D) = 0.96

High scores were very critical of the workshop. They questioned what, if anything, had been learned during the workshop period.

Low scores believed there was a good deal learned from the workshop experience.

Cluster 2. (Value of workshop in developing commitment to family life

Item number	Item statement	Oblique factor coefficient
14 (D)	This project convinced me that students should have a biological self-understanding.	.84
6 (D)	This project convinced me that students should have more knowledge about family relations than is obtained in the home.	.79
48 (D)	I learned very little from the project about instructional materials and curricula for family life education.	.70
55	As a result of the project I am only slightly better qualified to teach sex education than I was before the project started.	-.65
41	The material on the teacher's emotional preparation was valuable.	-.62

LBFC = 0.59
Reliability (D) = 0.83

High scores on this cluster felt the workshop experience had awakened them to the fact that students need more understanding in the realm of family living. They also felt that the workshop was effective in preparing them to teach family life in the classroom.

Low scores, on the other hand, were dubious of the workshop's stimulating forces and were not convinced that they were better prepared as teachers in this area.

Table 37. (continued)

Cluster 3. (Workshop organization and format)

Item number	Item statement	Oblique factor coefficient
39 (D)	The activities which "just happened" were of more value than those that were planned.	-.81
23 (D)	The panel discussions in the project were valuable to me.	.81
15 (D)	As a result of this project I intend to become more familiar with the background on the sexual behavior of my students.	.80
30 (D)	Being together in one large group for activities was important to me.	.71

LBFC = 0.74
Reliability (D) = 0.94

High scores on this cluster believed the planned activities of the workshop were catalysts in stimulating the teachers to look into the background on the sexual behavior of their students.

Low scores believed that the unstructured and spontaneous activities were better for them.

Cluster 4. (Value of planned, large scale activities during the workshop)

Item number	Item statement	Oblique factor coefficient
31 (D)	Working together in small groups was important to me.	-.90
39 (D)	The activities which "just happened" were of more value than those that were planned.	-.75
7	I learned more from my fellow participants than I did from the leaders and other experts who spoke to us.	-.71
22 (D)	The lectures in the project were valuable to me.	.71

LBFC = 0.68
Reliability (D) = 0.95

High scores on this dimension felt that the planned, large scale activities were more influential than the unplanned experiences or the relationships to other participants during the workshop.

Low scores felt that the unplanned, small group sessions were more valuable.

Table 37. (continued)

IV. Cluster Analysis of the Responses of the Rural, Secondary School Teachers.

Cluster 1. (Value of participants' role in planning workshop)

Item number	Item statement	Oblique factor coefficient
56 (D)	A better project would have resulted if participants had had a bigger part in its planning.	-.94
5 (D)	This project increased my knowledge of family life education and its position in schools.	.93
46 (D)	Project instructors covered the material too quickly.	.82
1 (D)	The material on human growth and development was valuable.	.67
53	There was little emphasis on major evaluation	-.63

LBFC = 0.65
Reliability (D) = 0.94

High scores on this cluster were satisfied with the program and believed the materials had increased their knowledge of family life education and its position in the schools.

Low scores, on the other hand, wanted more voice in the planning of the program and questioned whether or not the workshop had increased their knowledge.

Cluster 2. (Value of learning about and practicing inter-personal relations)

Item number	Item statement	Oblique factor coefficient
31 (D)	Working together in small groups was important to me.	.89
16 (D)	Visiting other projects similar to ours was worthwhile.	-.85
8 (D)	This project increased my knowledge about communication and social relationships.	.73

LBFC = 0.70
Reliability (D) = 0.90

High scores believed that learning about and practicing inter-personal relations during the workshop was an important part of preparing to teach family life education in the classroom.

Low scores felt that visiting other projects and the large group sessions were important parts of the program.

Table 37. (continued)

Cluster 3. (Changes in participant's understanding and self-confidence)

Item number	Item statement	Oblique factor coefficient
12 (D)	I am more self-confident in dealing with sex education as a result of this project.	.82
49	This project contributed little to my awareness of the problems that confront the youth of today.	-.81
6 (D)	This project convinced me that students should have more knowledge about family relations than is obtained in the home.	.77
44 (D)	This project put too much emphasis upon the sexual problems of students.	-.63
24 (D)	The discussion following formal presentations was valuable to me.	.63

LBFC = 0.60
Reliability (D) = 0.88

High scores on this cluster felt an increased awareness and confidence in matters dealing with the problems that confront the youth of today as a result of the workshop experience.

Low scores were apprehensive about the workshop's value in stimulating an awareness of these problems. Of special concern was that the workshop put too much emphasis on the sexual problems of students.

Cluster 4. (Value of workshop materials)

Item number	Item statement	Oblique factor coefficient
25 (D)	The films, records, tapes, etc. were valuable to me.	-.82
27 (D)	The role-playing which we did in the project was of value.	.80
36 (D)	The special instructional materials for family life education were valuable.	-.72
3 (D)	The project was too "middle class" in its philosophy and operation.	.61
41	The material on the teacher's emotional preparation was valuable.	.48

LBFC = 0.52
Reliability (D) = 0.90

High scores believed that the project was too middle class, some of the workshop materials were of little value, and that the emotional preparation of the teachers were valuable.

Low scores tended to feel the workshop's materials were appropriate and not aimed at the middle class.

Table 37 (continued)

Cluster 5. (Value of workshop curriculum)

Item number	Item statement	Oblique factor coefficient
32 (D)	Working by myself was important to me.	-.79
52 (D)	This project made me only slightly more aware of the moral and ethical aspects of teaching family life education.	.73
10	Developing skills and techniques for teaching family life education was a major part of this project.	.39
18	The material on how to teach specific subjects (sex, family relations, family sociology, etc.) to students was valuable.	.30

LRFC = 0.40
Reliability (D) = 0.79

High scores felt that the workshop's curriculum and procedures were valuable in developing skills and techniques for teaching specific areas of family life education.

Low scores were dubious of the workshop's value in developing the skills and techniques to teach family life in the classroom.

Cluster 6. (Negative outcomes of the workshop)

Item number	Item statement	Oblique factor coefficient
50 (D)	Curriculum development was not sufficiently covered in this project.	.83
11 (D)	This project has led me to feel that students need more individual attention on problems concerning sexual maturity.	-.74
48	I learned very little from the project about instructional materials and curricula for family life education.	.64
15	As a result of this project I intend to become more familiar with the background on the sexual behavior of my students.	-.59
26	The reading which I did as part of the project was of value.	-50.

LRFC = 0.49
Reliability (D) = 0.83

High scores on this cluster were critical of the workshop experience. They felt that curriculum development, instructional materials, and reading guides were not sufficiently covered during the workshop.

Low scores were less critical and believed that the workshop experience had provided some information pertinent to the development of a program in family life education.

In general, respondents were approving of the workshop, believing that they had gained a good deal of knowledge and understanding of family life education through the workshop experience. However, not all of the groups were in agreement about the workshop experience.

When the entire sample data were analyzed, it was found that the informal small group work sessions of the workshop were considered to be very valuable. Emphasis was given to the value of the workshop in developing in the participants an awareness of the needs of students relative to family life and sex education. In criticizing the workshop, the group felt that outside agencies and members of the community were not essential in family life education instruction and that the workshop was too middle class in its philosophy and operation. They wanted more participants in on the planning of the workshop, and wanted more emphasis placed upon the instructional materials related to teaching in the classroom.

The urban, elementary teachers valued the active participation in teaching during the workshop, were content with the workship's instructional materials and consultants, and felt that the workshop influenced their awareness of the problems confronting students today. This group of teachers valued the openness and frankness of the workshop but were not satisfied with the emotional preparation of the teachers.

The urban, secondary teachers also valued the active participation during the workshop, were content with the workshop's instructional materials and consultants, and felt the workshop stimulated a concern for student problems. This group of teachers valued the small group sessions, the outside agencies and community members' participation, as well as the workshop's methods of presentation.

The rural, elementary teachers were critical of the value of the materials presented, i.e., of what use would these be in a real classroom situation. This group valued the planned activities and felt that the workshop had been effective in stimulating their awareness of the problems of students and how family life education would help in solving these problems.

The rural, secondary teachers felt the workshop was beneficial and did not need to be changed. This group placed great value upon the small group sessions, the emotional preparation of the teachers, and the increased awareness and self-confidence in teaching family life and sex education generated by the workshop experience. There was some dissatisfaction, however. It was felt that the workshop's approach was too middle class and that more time should have been devoted to the development of curriculum and instructional materials.

Summary of the Evaluation of the Spring, 1968, Workshop

The evaluation of the in-service program conducted during the Spring of 1968 was designed to test three major hypotheses. The findings that resulted from analysis of the demographic data and the pretest and post-test scores on measures of the dependent variables are summarized here as evidence bearing on the acceptability of each of these hypotheses.

The first major hypothesis states,

> There are no significant differences on any of the demographic variables assessed by the Demographic Questionnaire between (1) teachers in the experimental group and teachers in the control group, (2) urban teachers and rural teachers, and (3) elementary school teachers and secondary school teachers.

Inspection and analysis of the demographic data reported in Tables 3 - 17 reveals that this hypothesis is acceptable.

The second major hypothesis states,

> There are no significant differences between the comparison groups enumerated in the first hypothesis on pretest measures of (1) knowledge of aspects of family life, particularly healthy sexuality (operationally defined as a score on the Sex Knowledge Inventory, Form X - Adults); (2) personality characteristics (operationally defined as a set of scores on the 14 scales of the Omnibus Personality Inventory, Form Fy).

Analysis of the data reported in Tables 18 - 23 and inspection of the data graphically represented in Figures 1 - 3 resulted in findings that support the acceptability of this hypothesis.

The third major hypothesis states,

> There are significant differences between the comparison groups on post-test measures of the dependent variables enumerated in the second hypothesis.

Analysis of the data reported in Tables 24 - 28 and inspection of the data graphically represented in Figures 4 - 6 resulted in findings that support only qualified acceptance of this hypothesis. Teachers in the experimental group achieved significantly higher means scores on the Thinking Introversion (TI), Religious Orientation (RO), and Personal Integration (PI) scales of the Omnibus Personality Inventory. Teachers in the control group achieved significantly higher mean scores than those in the experimental group on the Anxiety Level (AL) scale of the OPI. The two groups are similar on all of the other scales of the OPI and on the SKI All other things being considered equal, the differences in performance on the post-test between the experimental and control groups can be attributed to the impact of the training that the experimental group received and the control group did not.

The results of item and cluster analysis of the Family Life Attitude Inventory (FLAI) and Family Life Education Q-Sort (FLEQ), responses of subjects has been summarized on pages 57 and 63, 71-72, and 88 of this report. Definite differences in the response patterns for the comparison groups indicate that teachers in them perceived the FLAI and FLE Q-Sort items in distinctive ways within the dichotomies by which they were grouped; i.e., urban-rural, elementary-secondary, and experimental-control. These distinct patterns provide information about the attitudes and expectations of the teachers in each group that suggests changes which might be made to improve the effectiveness of the in-service training program in modifying the attitudes and meeting the needs of the teachers in a particular group.

PART II

THE SUMMER 1968 PROGRAM

THE SUMMER, 1968, WORKSHOP IN FAMILY LIFE EDUCATION

In the Summer of 1968, eighty teachers participated in the in-service training program in family life education. With slight variations, it was essentially the same as the one offered in spring (1968). The emphasis, again, was on the teachers' acquisition of the knowledge, attitudes, and self-understanding deemed necessary to effectively instruct their students in the area of human sexuality.

The Evaluation Design

The evaluation design was the same as for the spring (1968) group. However, the political and social climate regarding the teaching of sex education was at the boiling point in the state, threatening the very existence of the instructional program in the schools of the county, as well as the Title III project itself. Hence, it was not possible to assemble a control group of teachers for the summer training period. For this reason, the data are analyzed on a descriptive and comparative basis.

Similar to the spring group, the independent variables considered were (1) Type of Community - urban or rural, (2) Type of School - Elementary or Secondary, and (3) Experimental Condition - in this particular case, only an experimental group is considered. When broken down into various subgroups, the three independent variables yield four different groups:

(1) Urban - Elementary - Experimental
(2) Urban - Secondary - Experimental
(3) Rural - Elementary - Experimental
(4) Rural - Secondary - Experimental

The dependent variables considered were: (1) personality characteristics, (2) knowledge of family life education, particularly healthy sexuality, and (3) attitudes toward family life education.

Since it was not possible to assemble a control group of teachers with which to compare the attributes of the experimental group teachers on the dependent variables, no hypotheses concerning differences between the two groups on pre- and post-test measures of these variables could be tested.

The Evaluation Instruments and Procedures

The tests administered to the participants in the Summer, 1968, workshop were the same as those used for the spring group; i.e., the Omnibus Personality Inventory (OPI), the Sex Knowledge Inventory (SKI), the Family Life Attitude Inventory (FLAI), and the Family Life Education Q-Sort (FLEQ).

Pretests with these instruments were administered at a prearranged time and place before the teachers had any contact with the training program. Post-tests were administered approximately nine months later, after the teachers had received the training and had had an opportunity to teach family life education in the classroom.

The Sample

Eighty teachers participated in the Summer, 1968, workshop. Information about their personal background, academic and professional training, teaching experience, and other demographic characteristics, which was obtained from their responses to the Demographic Questionnaire, is reported in Tables 1 - 15.

TABLE 1. Age of the Teachers in the Four Groups.

GROUP	Age - Span								TOTAL
	20 - 30		31 - 40		41 - 50		51 - 60		
	#	%	#	%	#	%	#	%	
Urban-Elem-Exp	9	25	10	27	12	32	6	16	37
Urban-Second-Exp	2	15	2	23	3	23	5	39	13
Rural-Elem-Exp	4	20	7	35	2	10	7	35	20
Rural-Second-Exp	3	30	3	30	3	30	1	10	10
TOTALS	18	22	23	29	20	25	19	24	80

TABLE 2. Number and Per Cent of Male and Female Teachers in the Four Groups

GROUP	Men		Women		TOTAL
	#	%	#	%	
Urban-Elem-Exp	6	16	31	84	37
Urban-Second-Exp	5	39	8	61	13
Rural-Elem-Exp	1	5	19	95	20
Rural-Second-Exp	3	30	7	70	10
TOTALS	15		65		80
Average		19		81	

TABLE 3. Marital Status of the Teachers in the Four Groups

GROUP	Married		Single		Divorced		Separated		Widowed		TOTAL
	#	%	#	%	#	%	#	%	#	%	
Urban-Elem-Exp	33	88	2	7	1	2.5	0	0	1	2.5	37
Urban-Second-Exp	10	76	1	8	1	8	0	0	1	8	13
Rural-Elem-Exp	16	80	3	15	0	0	0	0	1	5	20
Rural-Second-Exp	10	100	0	0	0	0	0	0	0	0	10
TOTALS	69	86	6	7.5	2	2.5	0	0	3	4	80

TABLE 4. Number of Children for Each Group of Teachers and the Average Number for Each Teacher

GROUP	Number of Children	
	Number	Average
Urban-Elem-Exp	26	0.8
Urban-Second-Exp	10	0.8
Rural-Elem-Exp	14	0.7
Rural-Second-Exp	7	0.7
TOTAL	57	0.7

TABLE 5. Number of Years of Teaching Experience for Each Group of Teachers.

GROUP	Years of Teaching Experience										TOTAL
	0 - 5		5 - 10		10 - 15		15 - 20		20 - +		
	#	%	#	%	#	%	#	%	#	%	
Urban-Elem-Exp	5	14	13	34	7	19	8	21	4	12	37
Urban-Second-Exp	1	8	2	16	4	30	3	23	3	23	13
Rural-Elem-Exp	5	25	4	20	3	15	6	30	2	10	20
Rural-Second-Exp	2	20	2	20	5	50	0	0	1	10	10
TOTALS	13	16	21	26	19	23	17	20	10	15	80

TABLE 6. Number of Years of Teaching for Each Group in Their Present School District.

GROUP	Years in Present School District										TOTAL
	0 - 5		5 - 10		10 - 15		15 - 20		20 - +		
	#	%	#	%	#	%	#	%	#	%	
Urban-Elem-Exp	10	28	15	40	6	16	3	8	3	8	37
Urban-Second-Exp	2	16	2	16	5	37	3	23	1	8	13
Rural-Elem-Exp	7	35	4	20	6	30	3	15	0	0	20
Rural-Second-Exp	6	60	1	10	3	30	0	0	0	0	10
TOTALS	25	30	22	27	20	25	9	13	4	5	80

TABLE 7. Type of Institution From Which the Bachelor's Degree Was Received for Each Group of Teachers.

GROUP	Type of Institution								TOTAL
	Public		Private		Parochial		Other		
	#	%	#	%	#	%	#	%	
Urban-Elem-Exp	29	80	4	10	4	10	0	0	37
Urban-Second-Exp	13	100	0	0	0	0	0	0	13
Rural-Elem-Exp	17	85	1	5	2	10	0	0	20
Rural-Second-Exp	9	90	0	0	1	10	0	0	10
TOTALS	68	85	5	6	7	9	0	0	80

TABLE 8. Number of Graduate Units for Each of the Four Groups.

GROUP	Number of Graduate Units										TOTAL
	15		30		45		60		60+		
	#	%	#	%	#	%	#	%	#	%	
Urban-Elem-Exp	5	12	10	28	8	21	4	11	10	28	37
Urban-Second-Exp	2	16	0	0	2	16	0	0	9	68	13
Rural-Elem-Exp	4	20	5	25	5	25	2	10	4	20	20
Rural-Second-Exp	4	40	1	10	2	20	2	20	1	10	10
TOTALS	15	19	16	20	17	21	8	10	24	30	80

TABLE 9. Previous Experience in Family Life Education for the Teachers in the Four Groups.

GROUP	Type of Experience										TOTAL
	Course Work		Independent Reading		Community Program		Other		None		
	#	%	#	%	#	%	#	%	#	%	
Urban-Elem-Exp	3	8	13	35	0	0	11	29	10	28	37
Urban-Second-Exp	4	30	5	36	0	0	3	26	1	8	13
Rural-Elem-Exp	3	15	9	45	1	5	3	15	4	20	20
Rural-Second-Exp	2	20	4	40	0	0	2	20	2	20	10
TOTAL	12	15	31	39	1	1	19	24	17	21	80

TABLE 10. Previous In-Service Training Experience in Family Life Education for Each of the Four Groups of Teachers.

GROUP	In-Service Training Programs in Family Life Education for Each of the Four Groups of Teachers										TOTAL
	0		1		2		3		4		
	#	%	#	%	#	%	#	%	#	%	
Urban-Elem-Exp	25	70	9	22	2	5.5	1	2.5	0	0	37
Urban-Second-Exp	10	80	2	14	1	6	0	0	0	0	13
Rural-Elem-Exp	16	80	2	10	0	0	1	5	1	5	20
Rural-Second-Exp	8	80	2	20	0	0	0	0	0	0	10
TOTALS	59	74	15	19	3	3.7	2	2.3	1	1	80

TABLE 11. RELIGIOUS BACKGROUNDS OF THE TEACHERS IN THE FOUR GROUPS.

GROUP	Religious Affiliation										Total
	Protestant		Catholic		Agnostic		Atheist		Jewish		
	#	%	#	%	#	%	#	%	#	%	
Urban-Elementary-Experimental	27	73	6	17	1	2	0	0	3	8	37
Urban-Secondary-Experimental	8	60	3	24	1	8	0	0	1	8	13
Rural-Elementary-Experimental	11	55	6	30	2	10	0	0	1	5	20
Rural-Secondary-Experimental	6	60	2	20	1	10	0	0	1	10	10
TOTALS	52	65	17	20	5	6	0	0	6	9	80

TABLE 12. HOME LIFE DURING CHILDHOOD FOR THE TEACHERS IN THE FOUR GROUPS.

GROUP	Childhood Home Life								Total
	Unhappy		Poor		Good		Excellent		
	#	%	#	%	#	%	#	%	
Urban-Elementary-Experimental	0	0	4	11	24	64	9	25	37
Urban-Secondary-Experimental	0	0	2	15	8	62	3	23	13
Rural-Elementary-Experimental	1	5	0	0	12	60	7	35	20
Rural-Secondary-Experimental	0	0	1	10	4	40	5	50	10
TOTALS	1	1.2	7	8.8	48	60	24	30	80

TABLE 13. TYPE OF COMMUNITY DURING CHILDHOOD OF THE FOUR TEACHER GROUPS.

GROUP	Childhood Setting								Total
	Rural		Urban		Suburban		Other		
	#	%	#	%	#	%	#	%	
Urban-Elementary-Experimental	17	46	13	35	5	14	2	5	37
Urban-Secondary-Experimental	9	69	1	8	3	23	0	0	13
Rural-Elementary-Experimental	5	25	8	40	7	35	0	0	20
Rural-Secondary-Experimental	6	60	3	30	1	10	0	0	10
TOTALS	37	46	25	31.5	16	20	2	2.5	80

TABLE 14. Socio-Economic Status of Family during Childhood for the Four Teacher Groups.

GROUP	Socio-Economic Status						TOTAL
	Upper Class		Middle Class		Lower Class		
	#	%	#	%	#	%	
Urban-Elem-Exp	1	3	30	81	6	16	37
Urban-Second-Exp	0	0	12	99	1	1	13
Rural-Elem-Exp	2	10	18	90	0	0	20
Rural-Second-Exp	0	0	9	90	1	10	10
TOTALS	3	3.7	69	86.3	8	10	80

TABLE 15. Racial and Ethnic Backgrounds of the Teachers in the Four Groups.

GROUP	Ethnic Background										TOTAL
	Negroid		Am. Indian		Oriental		Spanish		Caucasian.		
	#	%	#	%	#	%	#	%	#	%	
Urban-Elem-Exp	2		0	0	0	0	0	0	35		37
Urban-Second-Exp	0	0	0	0	0	0	0	0	13	100	13
Rural-Elem-Exp	1	5	0	0	0	0	0	0	19	95	20
Rural-Second-Exp	0	0	0	0	0	0	0	0	10	100	10
TOTALS	3	4	0	0	0	0	0	0	77	96	80

Analysis of the Pretest and Post-test Scores

Tables 16 - 19 report the means and standard deviations of scores on the OPI and SKI tests for each of the four subgroups of teachers on both the pre- and post-tests. It is readily evident from inspection of these tables that there was very little difference between the four subgroups' scores. Tables 20 and 21 and Figures 1 and 2 provide a more detailed analysis of the pretest scores over the levels of the two independent variables, Type of Community and Type of School. The plots, in particular, bring out the similarity between the four subgroups. Tables 22 and 23 and Figures 3 and 4 show the corresponding analysis of post-test scores. The results are almost identical to what was found in the pretest scores; i.e., there was very little difference between the four subgroups. An analysis of variance performed on both the pretest and post-test scores on the OPI and SKI revealed no significant differences between levels of the two independent variables. The results of the analysis of variance in post-test scores is reported in Table 24.

Examination of pretest and post-test mean scores on the SKI reported in Tables 20 - 24 reveals that urban teachers raised their average score from 50.6 to 55.8 while rural teachers went from 48.8 to 54.2, and that both subgroups achieved very similar gains in sex knowledge. Elementary school teachers increased their average score from 49.5 to 54.8 while secondary school teachers went from 51.0 to 57.1; and again both subgroups achieved very similar gains. Analysis of pretest and post-test mean scores on the SKI indicates that there were significant gains in the amount of knowledge demonstrated by each of the four subgroups. The results of this analysis, which are reported in Table 25, imply that the training program improved the participants' knowledge of family life education, as measured by the SKI.

Table 16

Summer, 1968
Pre-Test

	Urban		Rural	
	Elem.	Sec.	Elem.	Sec.
Sample Sizes	37	13	20	10
Means				
OPI 1	26.0	25.2	26.7	23.6
OPI 2	19.7	18.7	18.8	15.9
OPI 3	13.5	12.6	12.9	12.2
OPI 4	16.1	13.5	13.2	12.8
OPI 5	29.4	27.1	27.9	29.6
OPI 6	13.7	13.9	12.4	16.2
OPI 7	26.4	25.9	27.3	26.4
OPI 8	27.5	26.7	24.6	28.6
OPI 9	40.2	38.3	41.8	37.3
OPI 10	15.4	13.3	16.3	15.0
OPI 11	26.4	24.8	25.9	23.2
OPI 12	12.2	14.2	13.1	14.3
OPI 13	26.0	27.5	26.5	24.0
OPI 14	14.8	13.4	15.9	11.7
SKI	50.6	50.5	47.4	51.5

Table 17

Summer, 1968
Pre-Test

	Urban		Rural	
	Elem.	Sec.	Elem.	Sec.
Sample Sizes	37	13	20	10
Standard Dev.				
OPI 1	6.9	6.9	6.9	8.0
OPI 2	5.3	4.1	4.8	5.8
OPI 3	4.8	6.1	4.8	6.8
OPI 4	6.4	6.1	4.4	5.9
OPI 5	7.7	8.5	7.9	5.0
OPI 6	5.5	6.1	6.3	4.9
OPI 7	6.3	5.2	5.9	3.2
OPI 8	10.8	8.0	10.5	9.5
OPI 9	7.6	11.0	10.0	7.3
OPI 10	2.7	4.0	3.1	3.1
OPI 11	5.3	4.9	4.8	4.2
OPI 12	6.4	5.3	4.7	5.7
OPI 13	5.3	5.6	4.8	7.1
OPI 14	3.6	3.4	4.7	2.9
SKI	7.7	5.9	8.4	8.6

Table 18

Summer, 1968
Post-Test

	Urban		Rural	
	Elem.	Sec.	Elem.	Sec.
Sample Sizes	25	5	12	4
Means				
OPI 1	25.2	24.8	25.8	21.3
OPI 2	19.1	20.6	18.8	15.8
OPI 3	13.5	14.4	13.2	12.3
OPI 4	14.4	12.6	14.7	11.3
OPI 5	30.4	25.0	28.0	34.0
OPI 6	14.5	14.8	13.8	13.3
OPI 7	24.4	26.2	26.2	26.0
OPI 8	24.2	25.2	24.1	22.3
OPI 9	39.2	39.8	41.1	46.3
OPI 10	15.4	16.0	15.5	17.0
OPI 11	25.1	23.6	24.5	26.3
OPI 12	11.8	18.0	11.9	11.8
OPI 13	27.5	29.0	26.1	24.0
OPI 14	14.7	14.6	16.2	14.5
SKI	55.7	56.4	52.9	58.0

Table 19

Summer, 1968
Post-Test

	Urban		Rural	
	Elem.	Sec.	Elem.	Sec.
Sample Sizes	25	5	12	4
Standard Dev.				
OPI 1	7.4	11.7	8.0	5.6
OPI 2	5.1	5.4	6.9	3.2
OPI 3	5.7	5.2	3.9	4.1
OPI 4	5.7	8.8	5.4	2.9
OPI 5	8.2	11.8	8.5	3.4
OPI 6	5.9	8.6	6.7	2.8
OPI 7	6.4	5.9	6.3	1.4
OPI 8	9.2	11.1	10.6	5.0
OPI 9	7.9	10.0	9.6	3.3
OPI 10	2.9	4.2	3.5	3.2
OPI 11	5.5	4.6	4.8	2.2
OPI 12	5.7	7.6	4.4	2.2
OPI 13	5.8	3.7	3.8	3.7
OPI 14	3.9	2.4	4.6	1.9
SKI	7.4	9.0	7.3	5.0

Table 20

Pre-Test, Summer, 1968

Type of Community

	Urban (N = 50)		Rural (N = 30)	
	$\overline{X}$	s	$\overline{X}$	s
OPI 1	25.8	6.9	25.7	7.3
OPI 2	19.5	5.0	17.8	5.2
OPI 3	13.3	5.1	12.7	5.4
OPI 4	15.4	6.4	13.1	4.8
OPI 5	28.8	7.9	28.5	7.0
OPI 6	13.8	5.6	13.7	6.0
OPI 7	26.2	6.0	27.0	5.1
OPI 8	27.3	10.1	26.0	10.2
OPI 9	39.7	8.5	40.3	9.3
OPI 10	14.8	3.2	15.9	3.1
OPI 11	26.0	5.2	25.0	4.7
OPI 12	12.7	6.1	13.5	5.0
OPI 13	26.4	5.4	25.6	5.7
OPI 14	14.5	3.6	14.5	4.6
SKI	50.6	7.2	48.8	8.5

Table 21

Pre-Test, Summer, 1968

Type of School

	Elementary (N = 57)		Secondary (N = 23)	
	$\bar{X}$	S	$\bar{X}$	S
OPI 1	26.3	6.9	24.5	7.3
OPI 2	19.4	5.1	17.5	5.0
OPI 3	13.3	4.7	12.4	6.3
OPI 4	15.1	5.9	13.2	5.9
OPI 5	28.8	7.7	28.2	7.2
OPI 6	13.2	5.7	14.9	5.6
OPI 7	26.7	6.1	26.1	4.4
OPI 8	26.5	10.7	27.5	8.5
OPI 9	40.8	8.5	37.9	9.4
OPI 10	15.7	2.9	14.0	3.7
OPI 11	26.2	5.1	24.1	4.6
OPI 12	12.5	5.8	14.3	5.3
OPI 13	26.2	5.1	26.0	6.4
OPI 14	15.2	4.0	12.7	3.2
SKI	49.5	8.0	51.0	7.0

Figure 1

Plot of Means for Type of Community

Pre-Test, Summer, 1968

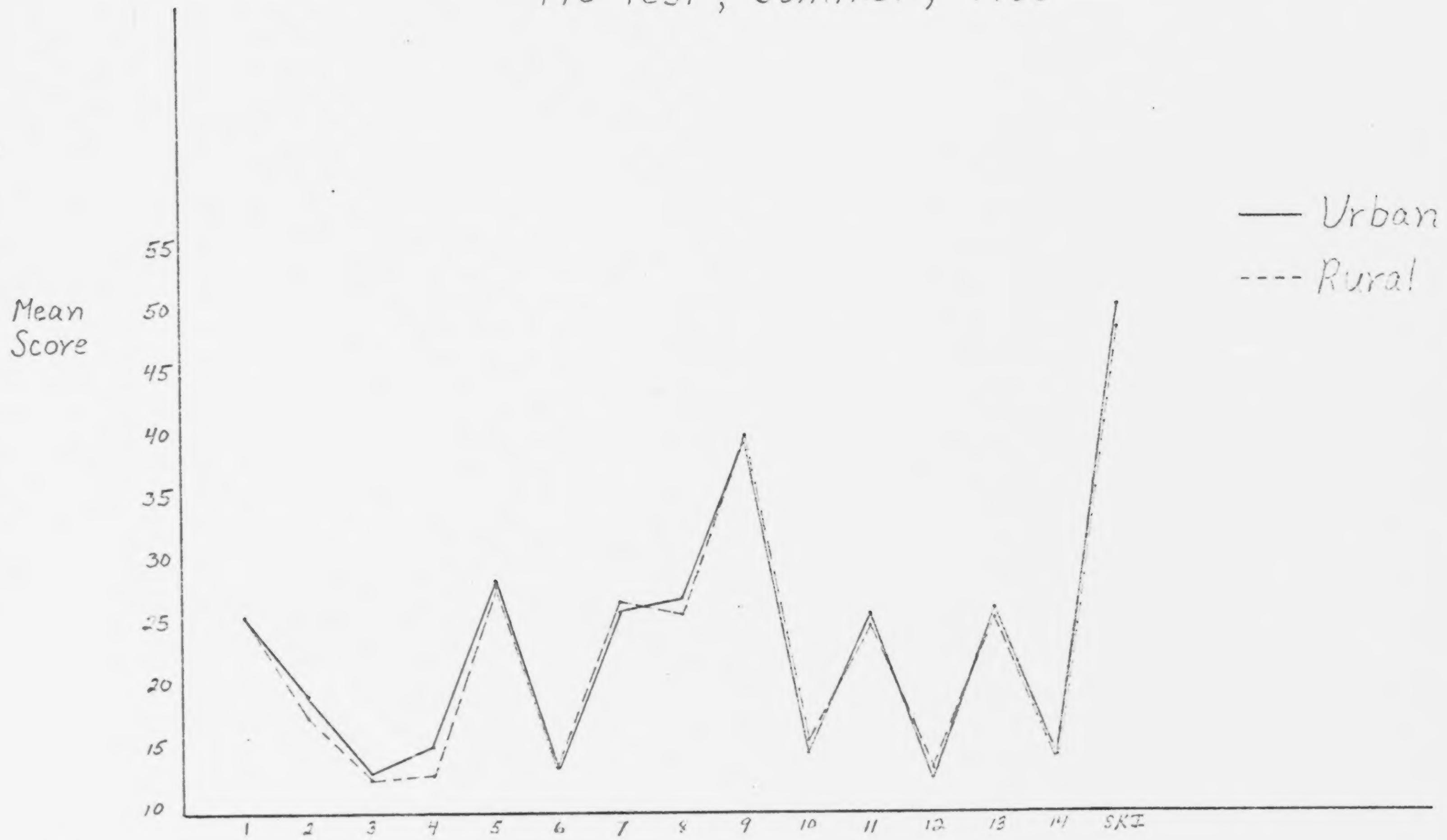


Figure 2

Plot of Means for Type of School

Pre-Test, Summer, 1968

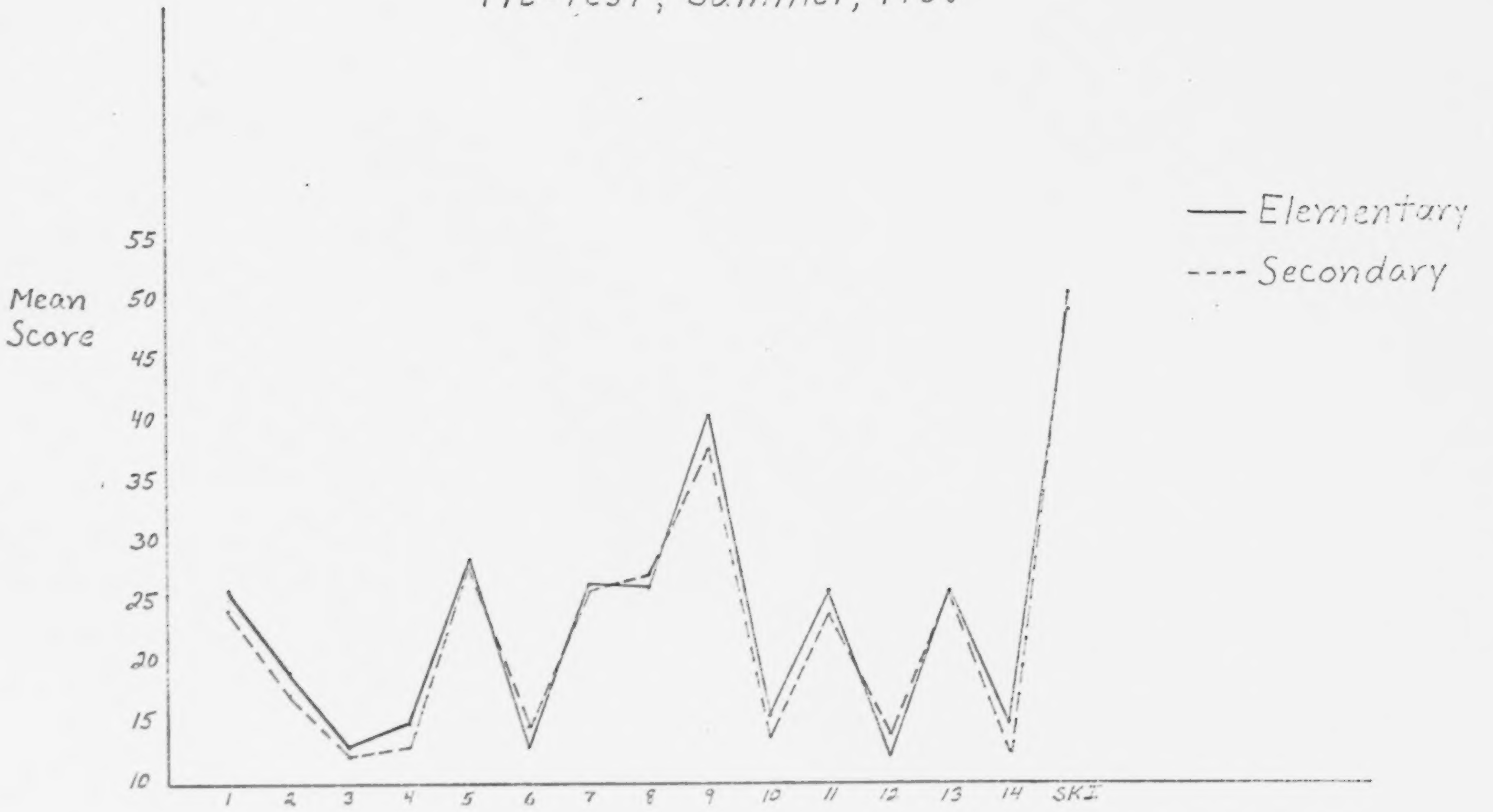


Table 22

Post-Test, Summer, 1968

Type of Community

	Urban (N = 30)		Rural (N = 16)	
	$\overline{X}$	S	$\overline{X}$	S
OPI 1	25.1	8.0	24.6	8.0
OPI 2	19.4	5.1	18.0	5.5
OPI 3	13.7	5.6	12.9	3.8
OPI 4	14.1	6.2	13.8	5.0
OPI 5	29.5	8.9	29.5	7.9
OPI 6	14.6	6.2	13.7	5.9
OPI 7	24.7	6.3	26.1	5.5
OPI 8	24.3	9.3	23.6	9.4
OPI 9	39.3	8.1	42.4	8.7
OPI 10	15.5	3.1	15.9	3.3
OPI 11	24.8	5.4	24.9	4.3
OPI 12	12.8	6.4	11.9	3.9
OPI 13	27.7	5.5	25.6	3.8
OPI 14	14.7	3.7	15.8	4.1
SKI	55.8	7.5	54.2	7.0

Table 23

Post-Test, Summer, 1968

Type of School

	Elementary (N = 37)		Secondary (N = 9)	
	$\bar{X}$	S	$\bar{X}$	S
OPI 1	25.4	7.5	23.2	9.1
OPI 2	19.0	5.3	18.4	5.0
OPI 3	13.4	5.2	13.4	4.6
OPI 4	14.5	5.5	12.0	6.5
OPI 5	30.0	8.3	29.0	9.8
OPI 6	14.3	6.1	14.1	6.3
OPI 7	25.0	6.4	26.1	4.3
OPI 8	24.1	9.5	23.9	8.5
OPI 9	39.8	8.4	42.7	8.1
OPI 10	15.5	3.0	16.4	3.6
OPI 11	24.9	5.3	24.8	3.8
OPI 12	11.8	5.3	15.2	6.4
OPI 13	27.0	5.3	26.8	4.4
OPI 14	15.2	4.2	14.6	2.1
SKI	54.8	7.4	57.1	7.1

Figure 3

Plot of Means for Type of Community

Post-Test, Summer, 1968

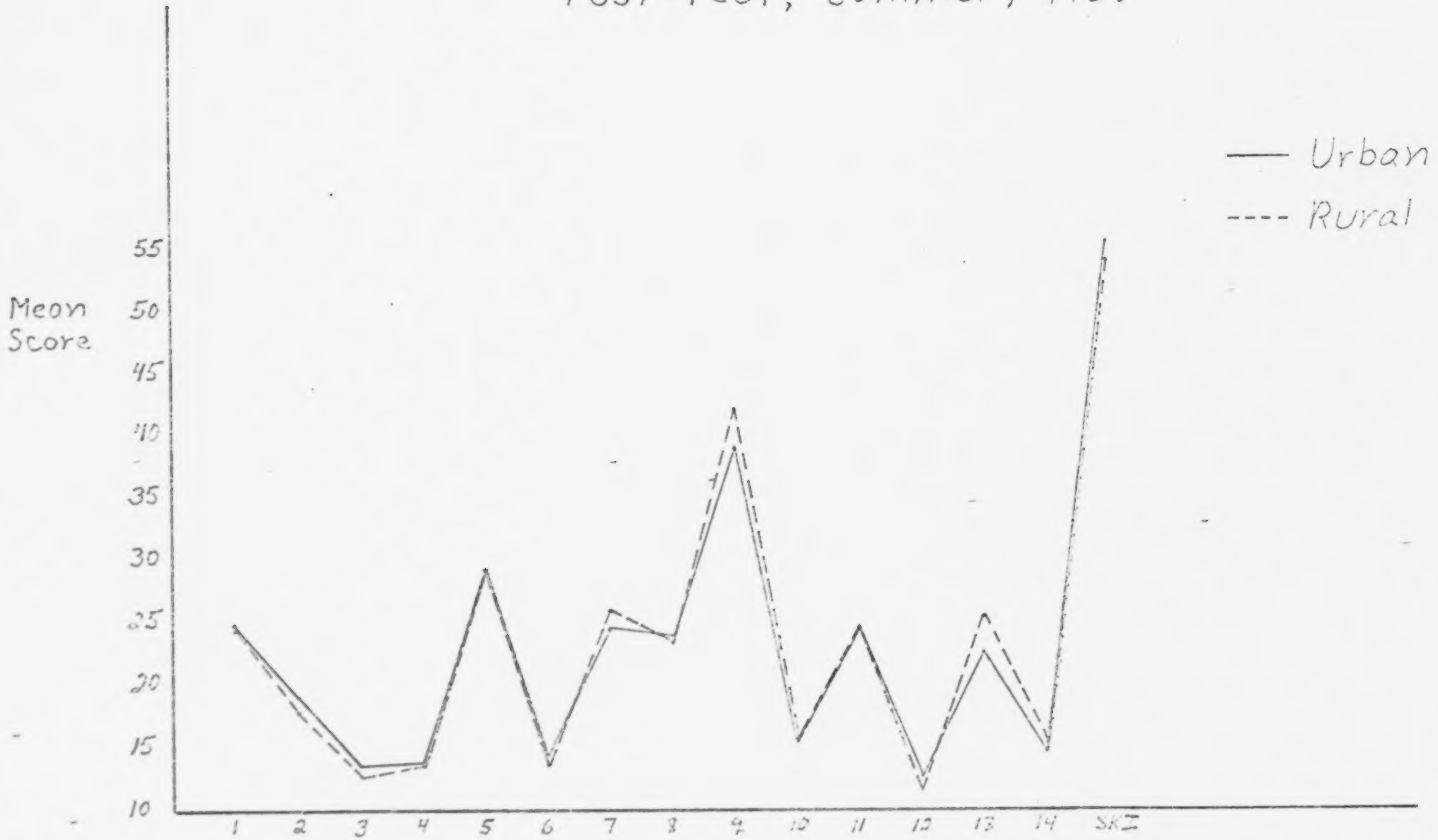


Figure 4

Plot of Means for Type of School
Post-Test, Summer, 1968

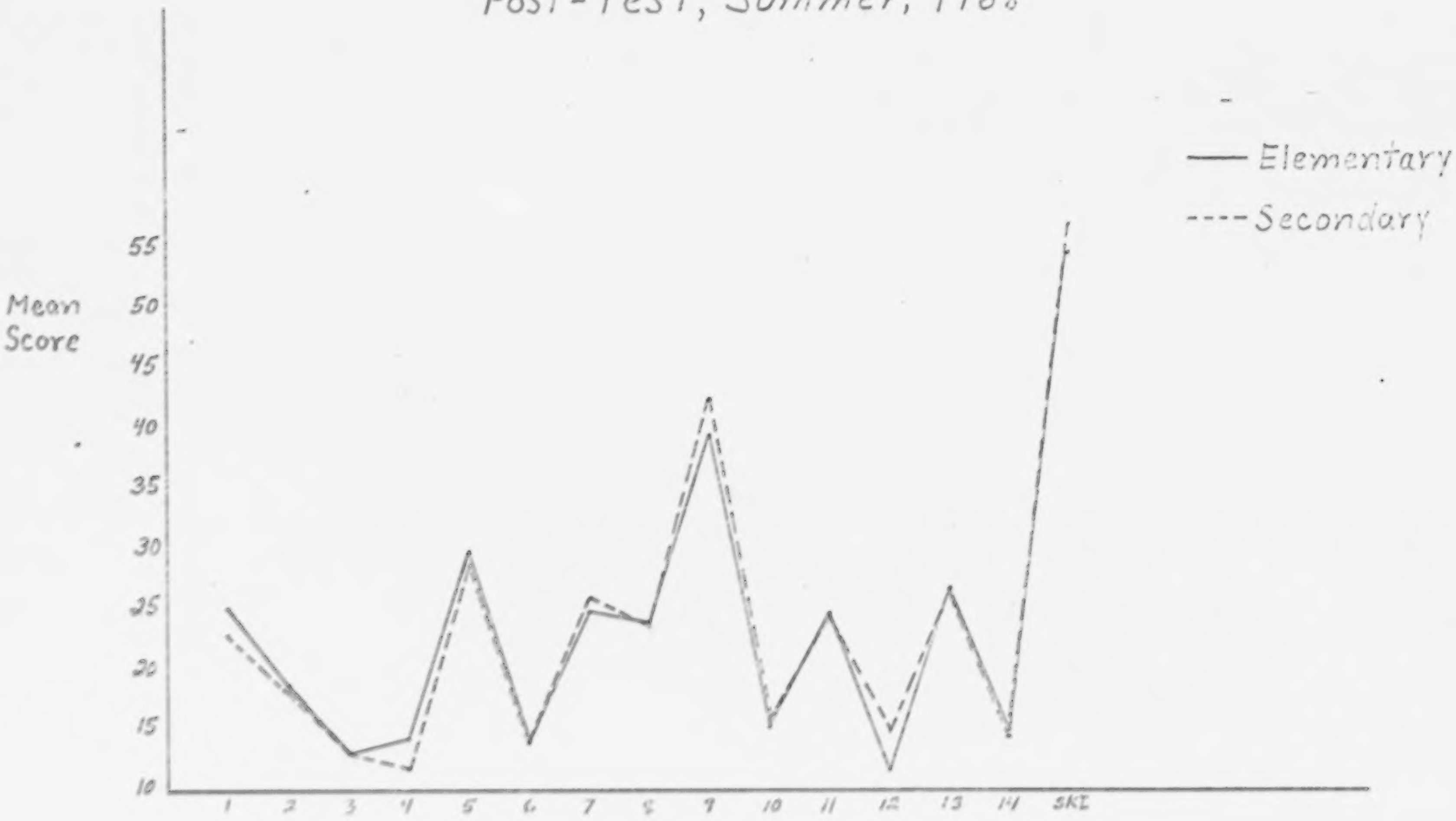


Table 24

Analysis of Variance Table

Summer, 1968

Post-Test Data

Source of Variation	Degrees of Freedom	Sum of Squares	Mean Squares	F
C	1	28.27	28.27	.52
S	1	45.63	45.63	.83
CxS	1	33.82	33.82	.62
Error	42	2303.28	54.84	
Total	45	2411.00		

Table 25

Tests for SKI Score Gains:

Tests by Cell

Test	Pre-Test			Post-Test			Difference		
Cell	$\bar{X}_1$	S	N	$\bar{X}_2$	S	N	$\bar{X}_2$ $\bar{X}_1$	t	P
Urban Elem.	50.6	7.7	37	55.7	7.4	25	5.1	2.6	L.01
Urban Sec.	50.5	5.9	13	56.4	9.0	5	5.9	1.5	L.10
Rural Elem.	47.4	8.4	20	52.9	7.3	12	5.5	1.9	L.05
Rural Sec.	51.5	8.6	10	58.0	5.0	4	6.5	1.4	L.10

Tests by Factor Level

Test	Pre-Test			Post-Test			Difference		
Level	$\bar{X}_1$	S	N	$\bar{X}_2$	S	N	$\bar{X}_2$ $\bar{X}_1$	t	P
Urban	50.6	7.2	50	55.8	7.5	30	5.2	3.1	L.01
Rural	48.8	8.5	30	54.2	7.0	16	5.4	2.2	L.05
Elementary	49.5	8.0	57	54.8	7.4	37	5.3	3.2	L.01
Secondary	51.0	7.0	23	57.1	7.1	9	6.1	2.2	L.05

Analysis of Family Life Attitude Inventory Responses

The FLAI was administered to the eighty teachers in the experimental group at the conclusion of the Summer, 1968, workshop. The means and standard deviations of the participants' responses are reported in Table 26. In this table, the FLAI items are classified into four categories as follows: (1) the school in family life education, (2) the family in family life education, (3) the community in family life education, and (4) the teacher in family life education. The items within each of these four categories are ranked in descending order by mean response. Responses were scored on a Likert-type scale of seven points, on which very strong agreement was scored as seven and very strong disagreement was scored as one. Therefore, the items within each category of Table 26 are listed in order from those which elicited strongest agreement to those which elicited strongest disagreement. The item statements, so arranged, indicate the participants' attitudes toward particular factors presumably related to family life education.

Table 26

MEANS AND STANDARD DEVIATIONS

OF RESPONSES TO THE FLAI

Summer, 1968 (N = 80)

Category 1. The School in Family Life Education

Item Number	Item Statement	Mean	S.D.
3	Students need more knowledge concerning their relationships with their families.	6.43	0.65
1	The school should make a contribution to strengthening the students' understanding of their sexual behavior.	6.20	0.95
9	I feel that students want classes in sex education and family living.	6.00	0.91
7	Classes concerning sex and reproduction should be coeducational.	5.48	1.12
2	The home is the most appropriate place for students to learn about matters concerning sex.	4.80	1.56
4	In matters pertinent to sex and reproduction, the student is instructed best by the school.	4.76	1.40

Table 26 (continued)

Category 1. (continued)

Item Number	Item Statement	Mean	S.D.
8	Students' slang about matters concerning sex acts as a communication barrier between students and adults.	4.20	1.35
11	The church is the most appropriate place for students to receive instruction toward the development of a healthy sexuality.	2.96	0.83
5	Controversial matters concerning sex education and family living should not be taught by the school.	2.72	1.45
6	Sex education should be taught to students only after they have reached the stage of puberty.	1.96	1.14
10	Learning about sex and reproduction at an early age will lead to promiscuous activity by students at a later age.	1.70	0.88

Category 2. The Family in Family Life Education

Item Number	Item Statement	Mean	S.D.
12	Matters concerning family interrelationships should be a part of the school curriculum.	5.93	1.01
18	In order to understand what it is the school is trying to accomplish, parents should be given instruction and information concerning controversial subject matters.	5.93	1.03
19	Students should be presented the negative as well as the positive aspects of family living.	5.52	1.06
21	Communication problems between parents and children are a necessary part of a program in family life education.	5.39	1.52
16	Family unity and communication is decreasing in modern society.	5.37	0.92
17	Influence of the modern world on the family has made it necessary that the school assume a large part of the responsibility for developing moral and ethical values in students.	5.33	0.96
15	Parents should be provided the opportunity to sanction or refute controversial subject matter taught in the school.	4.61	1.50

Table 26 (continued)

Category 2. (continued)

Item Number	Item Statement	Mean	S.D.
14	Parents' approval should be acquired before discussing controversial subjects concerning reproduction and sexual behavior in the classroom.	4.54	1.50
20	Parent-child relationships are things that must be learned by experiencing them.	4.48	1.38
22	The churches should take over from the family the chief responsibility for educating people for better personal and family living.	2.87	0.82
13	Parents should leave matters concerning sex education to the school.	2.57	0.99

Category 3. The Community in Family Life Education

Item Number	Item Statement	Mean	S.D.
24	Community support is an essential factor if the school is to teach a course in sex education to the students.	5.98	0.77
31	Community programs are needed concerning sex education.	5.87	1.06
28	Due to its effect on the community, publicity has delayed the development of needed courses in sex education.	5.67	1.10
32	If communities were more aware of the problems of youth, the schools would have less opposition in the development and implementation of courses in such subjects as sexual behavior and human reproduction.	5.65	1.29
30	The public must be prepared by the schools before controversial subject matter will be accepted by the community.	5.59	1.05
33	Our Puritan heritage has tended to slow down the development of sex education programs in our schools.	5.33	1.42
29	Lack of communication between the community and the schools is a key problem in initiating courses in in sex education and family living.	5.26	1.47
27	There should be more community participation in matters concerning the school curriculum.	4.96	1.16

Table 26 (continued)

Category 3. (continued)

Item Number	Item Statement	Mean	S.D.
26	The average member of a community is concerned about the school curriculum only when something controversial is introduced or implemented.	4.37	1.58
25	Communities in general are too conservative to give controversial subject matters a fair chance in the schools.	4.09	1.33
23	The community is not ready to accept the teaching of sex education in the schools.	3.37	1.45

Category 4. The Teacher in Family Life Education

Item Number	Item Statement	Mean	S.D.
39	In teaching sex education, the schools should begin in kindergarten and continue in phase with the maturation of individual students through the 12th grade.	6.37	0.94
34	The teacher has an important role in helping students learn what it is to be a man or a woman in our modern society.	6.09	0.93
36	Developing a healthy sexuality in students should be a responsibility of teachers at all grade levels.	6.07	1.05
42	In teaching controversial subject matters, teachers need to have in-depth training in communicating and sensing what their students are thinking.	5.80	1.12
35	Extensive preparation is necessary before a teacher is qualified to teach a course dealing with the psychosexual development of students.	5.43	1.45
38	Teaching or developing school programs should be in close cooperation with parents and parent groups.	5.41	1.21
44	Religious backgrounds of teachers may hinder their ability to effectively handle courses in sex education and family living.	4.70	1.28
37	Teaching a unit or course in family life education would be better than implementing related concepts into the content of other courses or units.	4.37	1.54

Table 26 (continued)

Category 4. (continued)

Item Number	Item Statement	Mean	S.D.
41	A teacher of sex education should avoid open discussions within the classroom about controversial topics concerning intercourse.	3.70	1.60
40	Teachers should avoid teaching about contraceptive methods in the classroom.	3.61	1.63
43	Even without special training in sex education, most teachers already possess the qualifications to teach such subject matter in the schools.	2.96	1.06

Examination of Table 26 reveals that, regarding the role of the school in family life education, the participants in the Summer, 1968, workshop felt that students need more knowledge about their relationships with their families (item 3) and that the school should make a contribution to strengthening their understanding of their own sexual behavior (item 1). They felt that students themselves want classes in sex education and family living (item 9) and that such classes, concerning sex and reproduction, should be coeducational (item 7). They were much less certain whether the home is the most appropriate place for students to learn about matters concerning sex (item 2) or whether, in matters pertinent to sex and reproduction, the student is best instructed by the school (item 4). They were about equally undecided as to whether the church is the most appropriate place for students to receive instruction toward the development of a healthy sexuality (item 11), though they tended to think that it was not. They tended to disagree with the view that controversial matters concerning sex education and family living should not be taught by the school (item 5). And they clearly disagreed with the view that sex education should be taught to students only after they have reached the stage of puberty (item 6) and that learning about sex and reproduction at an earlier age would lead to promiscuous activity at a later age (item 10).

Concerning the role of parents and the family in family life education, the participants strongly agreed that matters concerning family interrelationships should be a part of the school curriculum, but also that, in order to understand what it is the school is trying to accomplish through family life education, parents should be given instruction and information, particularly concerning controversial subject matters (items 12 and 18). Under these circumstances they felt that students should be presented the negative as well as the positive aspects of family living (item 19), particularly the communication problems between parents and children which are a necessary part of any program in family life education (item 21). Apparently the basis for their agreement with this view lies in their belief that family unity and communication are decreasing in modern society (item 16), and that the influence of the modern world on the family has made it necessary that the school assume a large part of the responsibility for developing moral and ethical values in students (item 17). They appear to have been somewhat undecided whether parents should be provided the opportunity to sanction or refute controversial subject matters taught in the school (item 15), or whether parents' approval should be acquired before discussing controversial subjects concerning reproduction and sexual behavior in the classroom (item 14), though they tended to agree that these limitations should be set upon a program of family life education. They felt pretty strongly that the parents and family should retain considerable responsibility for the family life and sex education of their children, tending to disagree that the churches should take over the chief responsibility for educating people for better personal and family living (item 22), or that parents should leave matters concerning sex education entirely to the school (item 13).

Regarding the community's role in family life education, the participants in the Summer, 1968, workshop strongly agreed that community support is an essential factor if the school is to teach courses in sex education (item 24), and, indeed, that community-wide programs are needed in sex education (item 31). But they appear to have been sensitive to public relations problems arising from the nature of the community's concern for family life and sex education. They felt quite strongly that, due to its effect on the community, publicity about such programs has delayed the development and implementation of needed courses in sex education (item 28), and that, if communities were more aware of the problems of youth, the schools would have less opposition in the development and implementation of courses in such subjects as sexual behavior and human reproduction (item 32). For these reasons, apparently, they further agreed that the public must be prepared by the schools before controversial subject matter will be accepted by the community (item 30), otherwise, our Puritan heritage will continue, as it has in the past, to slow down the development of sex education programs in our schools (item 33). In this same line of thought, they agreed that lack of communication between the community and the schools is a key problem in initiating courses in sex education and family living (item 29), though they were somewhat less certain that there should be more community participation in matters concerning the school curriculum in general (item 27). In any case, they were not inclined to agree (or, for that matter, to disagree) that the average member of a community is concerned about the school curriculum only when something controversial is introduced or implemented (item 26); that communities in general are too conservative to give controversial subject matters a fair chance in the schools (item 25); or that the community is not yet ready to accept the teaching of sex education in the schools (item 23).

Finally, regarding the teacher's role in family life education, the participants strongly agreed that, in teaching sex education, the schools should begin in kindergarten and continue, in phase with the maturation of individual students, through the twelfth grade (item 39), presumably because they felt strongly that the teacher has an important role in helping students learn what it is to be a man or a woman in our modern society (item 34) and that developing a healthy sexuality in students should be a responsibility of teachers at all grade levels (item 36). Their cautious and prudent sense of this responsibility is reflected in their agreement that, in teaching controversial subject matters, teachers need to have in-depth training in communicating and sensing what their students are thinking about such matters (item 42), and that extensive preparation is necessary before a teacher is qualified to teach a course dealing with the psycho-sexual development of students (item 35). Their sense that their responsibility should be shared with parents and community is reflected in their agreement that teaching or developing school programs in family life education should be in close cooperation with parents and parent groups (item 38). They appear to have been somewhat undecided whether the religious backgrounds of teachers may hinder their ability to effectively handle courses in sex education and family living (item 44). They were not clearly certain whether teaching a unit or course in family life education would be better than implementing related concepts into the content of other courses or units (item 37). And although they were largely undecided, they tended to disagree that teachers of sex education should avoid open discussions in the classroom about controversial topics concerning intercourse (item 41), such as contraceptive methods (item 40). Finally, regarding their role and responsibility, they tended to disagree with the flattering view that, even without special training in sex education, most teachers already possess the qualifications to teach such subject matter in the schools (item 43), thus acknowledging, at least indirectly, the value they set upon the opportunity they had been afforded to receive such special training in the Summer, 1968, workshop in family life education.

In order to obtain additional information about the basic attitudes toward family life education entailed by the workshop participants' responses to the FLAI, their responses were subjected to cluster analysis to discern patterns among them. The results of the cluster analysis are reported in Table 27, which indicates four basic attitude clusters, or domains, which have been designated by the following terms to describe their contents: (1) assessment of the need for family life and sex education programs, (2) assessment of the need for limits on the inclusion of controversial topics in family life and sex education programs, (3) assessment of the schools' role and responsibility in family life and sex education, and (4) assessment of the community's concern for the controversial nature of family life and sex education. The significance of each cluster and the meaning of a high and a low score on the dimension measured by the cluster are explained in terms of the item statements which, through the interrelationships among participants' responses to them, define these four basic attitude clusters. The reliability of a cluster score on each of these four clusters is computed on the basis of the inter-correlation of the defining items and their factor coefficients. In general, a high cluster score on all four of these basic attitude dimensions indicates a positive attitude toward family life and sex education programs that offer instruction within certain limits that exclude particularly controversial topics and that are publicized with due regard for the controversial nature of such programs even when they are developed and implemented within prescribed limits.

Table 27

ATTITUDE CLUSTERS AMONG THE RESPONSES TO THE FLAI

Summer, 1968 (N = 80)

Cluster 1. Assessment of Need for Family Life Education Programs — Reliability(D) = 0.82

Item Number	Item Statement	Factor Coeff.
34	The teacher has an important role in helping students learn what it is to be a man or a woman in our modern society.	.75
31	Community programs are needed concerning sex education.	.74
36	Developing a healthy sexuality in students should be a responsibility of teachers at all grade levels.	.73
1	The school should make a contribution to strengthening the students' understanding of sexual behavior patterns.	.71

High scorers on this dimension believe a need for family life and sex education programs exists and that teachers, schools, and the community should all contribute to meeting that need.

Low scorers on this dimension do not believe that there is any need for family life education programs and deny that teachers, schools, and communities should contribute to students' understanding of sexual behavior and family relationships.

Cluster 2. Assessment of Need for Limits on Inclusion of Controversial Topics in Family Life Education Programs — Reliability(D) = 0.75

Item Number	Item Statement	Factor Coeff.
14	Parents' approval should be acquired before discussing controversial subjects concerning reproduction and sexual behavior in the classroom.	.83
40	Teachers should avoid teaching about contraceptive methods in the classroom.	.63
15	Parents should be provided the opportunity to sanction or refute controversial subject matter taught in the schools.	.68

High scorers on this dimension feel that parents and teachers should cooperate in setting limits on the inclusion of certain controversial topics in family life education programs.

Table 27 (continued)

Cluster 2. (continued)

Low scorers on this dimension do not feel that either parents or teachers should exclude controversial topics from classroom instruction in family life and sex education.

Cluster 3. Assessment of the Schools' Role in Family Life and Sex Education Reliability(D) = 0.72

Item Number	Item Statement	Factor Coeff.
2	The home is the most appropriate place for students to learn about matters concerning sex.	-.70
13	Parents should leave matters concerning sex education to the schools.	.59
4	In matters pertinent to sex and reproduction, the student is instructed best by the school.	.56

High scorers on this dimension believe that teachers in the schools provide better instruction in family life and sex education than parents in the home, who should delegate this responsibility to the schools.

Low scorers on this dimension believe that parents in the home should not delegate their responsibility for family life and sex education to teachers in the schools.

Cluster 4. Assessment of Community Concern for Family Life and Sex Education Reliability(D) = 0.68

Item Number	Item Statement	Factor Coeff.
28	Due to its effect on the community, publicity has delayed the development of needed courses in family life and sex education.	.76
26	The average member of a community is concerned about the school curriculum only when something controversial is introduced or implemented.	.67

High scorers on this dimension are sensitive to the public relations problem raised by the community's concern for the controversial nature of family life and sex education programs.

Low scorers on this dimension do not believe that publicity about the controversial nature of family life and sex education programs is a problem causing delay in the development and implementation of such programs.

Considered together, the participants' responses to the individual items of the FLAI which are reported in Table 26, and their basic attitude clusters, described in Table 27, reveal that they believe strongly in the importance of their role and the school's role in family life and sex education, but they are conscious of (and conscientious about) their responsibility to students, parents, and community in performing that important role. Although they may feel that parents and community do not have a fully enlightened and informed view of the position of family life education in the school, and that their somewhat negative attitude toward the teaching of controversial subject matters in the school obstructs the development and implementation of needed programs, they do not wish to polarize attitudes by confronting parents and community with programs as *fait accompli*. They seem to prefer, instead, open, honest and informative communication between the school, its parent groups, and its community, putting their trust in what they take to be the possibilities for cooperation and collaboration between and among these groups in sharing responsibility for sponsoring educational programs in family life and sex education which are certain to be, by their very nature, somewhat controversial however objectively and professionally they may come to be regarded by the majority of the members of these groups.

Analysis of Family Life Education Q-Sort Responses

The FLEQ was administered to all of the teachers (N = 80) in the experimental group at the conclusion of the Summer, 1968, workshop. Table 28 reports the means and standard deviations of the participants' responses. The FLEQ items are classified into five categories as follows: (1) value of the workshop's instructional materials, (2) value of the workshop's instructional procedures, (3) value of the workshop's curriculum, (4) changes in the participants' knowledge and understandings of family life education, and (5) changes in the participants' attitudes toward family life education. The items within each of these five categories are listed in ascending order of their ranking by mean response. The reader will recall that responses are scored on a scale from one to seven, with a strong agreement to an item statement scored as one and strong disagreement with an item statement scored as seven. Therefore, the items within each category are ranked in order from most to least favorable responses regarding the workshop's program and outcomes.

Table 28

MEANS AND STANDARD DEVIATIONS OF RESPONSES TO THE FLE Q-SORT

Summer, 1968 (N = 80)

Category 1. Value of the Workshop's Instructional Materials

Item Number	Item Statement	Mean	S.D.
35	The material on the communication problems of children was valuable.	2.25	1.43
36	The special instructional materials for family life education were valuable.	2.78	1.27
1	The material on human growth and development was valuable.	2.79	1.52
41	The material on the teacher's emotional preparation was valuable.	2.81	1.72
37	The material on teaching methods for sex education was valuable.	2.98	1.29
2	The material on human reproduction was valuable.	2.99	1.52
18	The material on how to teach specific topics (sex, family relations, etc.) was valuable.	3.09	1.34
19	The material on curriculum development for family life education was valuable.	3.24	1.42

Category 2. Value of the Workshop's Instructional Procedures

Item Number	Item Statement	Mean	S.D.
22	The lecturers in the project were valuable to me.	2.24	1.21
24	The discussion following formal presentations was valuable to me.	2.75	1.45
26	The reading which I did as part of the project was valuable to me.	2.98	1.56
31	Working together in small groups was important to me.	3.21	1.40

Table 28 (continued)

Category 2. (continued)

Item Number	Item Statement	Mean	S.D.
25	The films , records, tapes, etc. were valuable to me.	3.40	1.54
17	The small work group sessions were valuable to me.	3.49	1.40
23	The panel discussions in the project were valuable to me.	3.51	1.70
21	Observing the teaching of sex education was valuable to me.	3.80	2.03
27	The role-playing we did in the project was valuable to me.	4.60	1.76
30	Being together in one large group for activities was important to me.	4.64	1.43
29	Doing the assigned written work was valuable to me.	4.85	1.66
28	The replaying of activities through video or audio tape was valuable to me.	4.90	1.72
16	Visiting other projects similar to ours was worthwhile.	6.01	1.30
32	Working by myself was important to me.	6.21	1.06
20	The actual teaching or tutoring I did as part of the project was valuable to me.	6.39	1.03

Category 3. Value of the Workshop's Curriculum

Item Number	Item Statement	Mean	S.D.
38	Those sessions when participants were absolutely frank, and even angry, were valuable.	2.13	1.35
9	Consultants who themselves had participated in family life education offered valuable advice on teaching sex education.	2.56	1.34
34	Consultants who worked with teachers individually or in small groups were helpful.	3.36	1.59
33	Meeting agency workers, community leaders, or other non-school personnel was valuable.	3.56	1.41
10	Developing skills and techniques for teaching family life education was a valuable part of this project.	3.76	1.91

Table 28 (continued)

Category 3. (continued)

Item Number	Item Statement	Mean	S.D.
39	The activities which "just happened" were of more value than those that were planned.	4.28	1.75
50	Curriculum development was not sufficiently covered in this project.	4.53	1.78
42	Too often in the project, I was just listening or watching, rather than actively doing something.	4.70	1.70
47	The leaders put too much emphasis on dispensing information and not enough on getting us to explore our feelings.	5.03	1.78
40	Having contact with parents and members of the community was worthwhile.	5.04	1.50
46	Project instructors covered the material too quickly.	5.05	1.36
53	There was little emphasis on major evaluation in this project.	5.10	1.35
43	A better project would have resulted if participants had made more of the decisions about its day-to-day operations.	5.18	1.53
7	I learned more from my fellow participants than I did from the leaders and other experts who spoke to us.	5.20	1.23
3	The project was too "middle class" in its philosophy and operation.	5.25	1.64
56	A better project would have resulted if participants had had a bigger part in its planning.	5.33	1.39
44	This project put too much emphasis upon the sexual problems of students.	5.79	1.10
45	This project's format should be changed.	5.81	1.57

Category 4. Changes in the Participants' Knowledge and Understandings of Family Life Education

Item Number	Item Statement	Mean	S.D.
5	This project increased my knowledge of family life education and its position in the schools.	2.03	1.30

Table 28 (continued)

Category 4. (continued)

Item Number	Item Statement	Mean	S.D.
13	This project increased my understanding of the importance of emotional development of children.	2.35	1.53
8	This project increased my knowledge about communication and social relationships.	2.36	1.52
51	I learned very little from the project about the effects of a home environment on students' sexual conduct.	4.95	1.67
48	I learned very little from the project about instructional materials and curricula for family life education.	5.40	1.29
54	This project did little to increase my awareness of the resource materials available for family life education.	5.54	1.43
49	This project contributed little to my awareness of the problems that confront the youth of today.	5.64	1.43

Category 5. Changes in the Participants' Attitude Toward Family Life Education

Item Number	Item Statement	Mean	S.D.
6	This project convinced me that students should have more knowledge about family relations than is obtained in the home.	1.75	1.03
14	This project convinced me that students should have a biological and psychological self-understanding.	1.96	1.21
12	I am more self-confident in teaching sex education as a result of this project.	2.21	1.63
11	This project has led me to feel that students need more individual attention on problems concerning sexual maturity.	2.39	1.35
15	As a result of this project I intend to become more familiar with the background of the sexual behavior of my students.	3.39	1.73
55	As a result of this project I am only slightly better qualified to teach sex education than I was before the project began.	4.91	1.72

Table 28 (continued)

Category 5. (continued)

Item Number	Item Statement	Mean	S.D.
52	This project has made me only slightly more aware of the moral and ethical aspects of teaching family life education.	5.08	1.62
4	I have to admit that I am as critical of sex education as I was before this project began.	6.54	0.71

The means and standard deviations of participants' responses to the items of the FLEQ, as they are reported in Table 28, reveal which instructional materials and procedures, which curriculum and program features, and which outcomes of the workshop the participants valued most and least. In order to highlight and emphasize the judgments of the workshop reflected in these responses, however, Table 29 reports the lowest and highest item mean scores within each of the five categories. Those items having the lowest mean scores (above the dotted line) are the ones with which the participants expressed strongest agreement; those having the highest mean scores (below the dotted line) are the ones with which they expressed strongest disagreement.

Table 29

HIGHEST AND LOWEST MEAN

RESPONSES TO THE FLE Q-SORT

Summer, 1968 (N = 80)

Category 1. Value of the Workshop's Instructional Materials

Item Number	Item Statement	Mean	S.D.
35	The material on the communication problems of children was valuable.	2.25	1.43
36	The special instructional materials for family life education were valuable.	2.78	1.27

. . . .

Table 29 (continued)

Category 1. (continued)

Item Number	Item Statement	Mean	S.D.
18	The material on how to teach specific topics (sex, family relations, etc.) was valuable.	3.09	1.34
19	The material on curriculum development for family life education was valuable.	3.24	1.42

Category 2. Value of the Workshop's Instructional Procedures

Item Number	Item Statement	Mean	S.D.
22	The lectures in the project were valuable to me.	2.24	1.21
24	The discussion following formal presentations was valuable to me.	2.75	1.45

. . . .

Item Number	Item Statement	Mean	S.D.
32	Working by myself was important to me.	6.21	1.06
20	The actual teaching or tutoring I did as part of the project was valuable to me.	6.39	1.03

Category 3. Value of the Workshop's Curriculum

Item Number	Item Statement	Mean	S.D.
38	Those sessions when participants were absolutely frank, and even angry, were valuable.	2.13	1.35
9	Consultants who themselves had participated in family life education offered valuable advice on teaching sex education.	2.56	1.34

. . . .

Item Number	Item Statement	Mean	S.D.
44	This project put too much emphasis upon the sexual problems of students.	5.79	1.10
45	This project's format should be changed.	5.81	1.57

Table 29 (continued)

Category 4. Changes in Participants' Knowledge and Understandings of Family Life Education

Item Number	Item Statement	Mean	S.D.
5	This project increased my knowledge of family life education and its position in the schools.	2.03	1.30
13	This project increased my understanding of the importance of emotional development of children.	2.35	1.53
. . .	. . .	. . .	. . .
54	This project did little to increase my awareness of the resource materials available for family life education.	5.54	1.43
49	This project contributed little to my awareness of the problems that confront the youth of today.	5.64	1.43

Category 5. Changes in Participants' Attitudes Toward Family Life Education

Item Number	Item Statement	Mean	S.D.
6	This project convinced me that students should have more knowledge about family relations than is obtained in the home.	1.75	1.03
14	This project convinced me that students should have a biological and psychological self-understanding.	1.96	1.21
. . .	. . .	. . .	. . .
52	This project has made me only slightly more aware of the moral and ethical aspects of teaching family life education.	5.08	1.62
4	I have to admit that I am as critical of sex education as I was before this project began.	6.54	0.71

Table 29 indicates that the participants in the Summer, 1968, workshop judged that the materials on the communication problems of children and the special instructional materials for family life education were most valuable to them. They judged further that, of all the instructional procedures employed in the conduct of the workshop, the lectures and the discussions following the formal presentations were most valuable to them. In assessing the workshop's curriculum and program, they valued most highly those sessions when participants were absolutely frank, and even angry, and also the advice on teaching sex education offered by consultants who themselves had participated in family life education. In general, they approved of the workshop's format and did not think that it should be changed.

The participants acknowledged the workshop's influence upon their knowledge and understanding of family life education, most particularly upon their appreciation of its position in the schools. Further, they judged that their participation increased their understanding of the importance of the emotional development of children. They also felt that the workshop contributed to their awareness of the problems that confront the youth of today and increased their awareness of the resource materials available for family life education programs designed to help students solve those problems. They acknowledged further that, among other important outcomes of their participation in the workshop, they had been convinced that students should have more knowledge about family relations than they receive in the home and that they should have a biological and psychological self-understanding. They also felt that the workshop had made them more aware of the moral and ethical aspects of teaching family life education. In general, they judged themselves to be less critical of family life and sex education programs in the schools than they had been before their participation in the workshop.

On the whole, the participants' responses to the FLEQ indicate that they judged the Summer, 1968, workshop to have been a worthwhile and effective inservice teacher training experience.

Participants' responses to the FLEQ were also subjected to cluster analysis, a procedure for grouping items to reveal patterns of responses and basic judgments indicated by those patterns. Table 30 reports the results of the cluster analysis, indicating five clusters or patterns of responses that have been designated by the following terms in order to describe the basic judgments they express: (1) evaluation of the workshop's program and operation, (2) assessment of gains in knowledge and understanding of family life education, (3) evaluation of the workshop's instructional materials, (4) evaluation of the workshop's instructors, and (5) evaluation of the workshop's small-group activities. In the table, these five clusters are described by the item statements which, according to their factor coefficients, define them most particularly. The reader will recall that the reliability of a score on each of these five clusters is computed on the basis of the correlation of each defining item statement with the others and reported as the (D)-reliability of the cluster score; that the meaning of a high and a low score on each of these five clusters is explained in terms of the defining item statements; and that a high cluster score on clusters 1, 2, and 4 indicates a critical or unfavorable response to the features of the workshop judged by these measures; a high score on clusters 3 and 5 indicates an approbative or favorable response. The item means reported in Table 28 indicate whether the majority response to the features of the workshop assessed by each of these five dimensions was a high-score or low-score, a favorable or unfavorable one. In general, participants' cluster scores indicate the majority of them judged the workshop very favorably.

Table 29

CLUSTERS OF RESPONSES TO THE FLE Q-SORT

Cluster 1. Evaluation of the Workshop's Program and Operation — Reliability(D) = 0.72

Item Number	Item Statement	Factor Coeff.
56	A better project would have resulted if participants had had a bigger part in its planning.	.84
43	A better project would have resulted if participants had made more of the decisions about its day-to-day operations.	.64
45	This project's format should be changed.	.54
47	The leaders of this project put too much emphasis on dispensing information and not enough on getting us to explore our feelings.	.44

High scorers on this dimension are critical of the workshop's program and operation, judging that they would have been better if participants had had a bigger part in planning and in making decisions that would have resulted in a different format, one that put less emphasis on dispensing information and more on getting participants to explore their feelings.

Low scorers on this dimension are not critical of the program and operation of the workshop, do not think participants should have had a bigger part in planning and and decision-making, and do not think the format should be changed to shift the emphasis from dispensing information to exploring feelings.

Cluster 2. Assessment of Gains in the Participants' Knowledge and Understandings — Reliability(D) = 0.75

Item Number	Item Statement	Factor Coeff.
49	This project contributed little to my awareness of the problems that confront the youth of today.	.77
52	This project made me only slightly more aware of the moral and ethical aspects of teaching family life education.	.64
51	I learned very little from the project about the effects of a home environment upon a student's sexual conduct.	.57
54	This project did little to increase my awareness of the resource materials available for family life education.	.55

Table 29 (continued)

Cluster 2. (continued)

High scorers on this dimension judged that their participation in the workshop had contributed little to their awareness of the problems that confront today's youth, of the moral and ethical aspects of teaching family life education, of the effects of a home environment upon sexual conduct, and of resource materials for teaching family life education.

Low scorers on this dimension judged that their participation in the workshop had contributed much to their awareness of these matters.

Cluster 3. Evaluation of the Workshop's Instructional Materials   Reliability(D) = 0.76

Item Number	Item Statement	Factor Coeff.
1	The material on human growth and development was valuable.	.74
2	The material on human reproduction was valuable.	.70
25	The films, records, tapes, etc. were valuable.	.61
36	The special instructional materials for family life education were valuable.	.55

High scorers on this dimension judged the workshop's special instructional materials, particularly those on human growth and development and those on human reproduction, to have been valuable.

Low scorers on this dimension judged the special instructional materials of the workshop to have been of little or no value.

Cluster 4. Evaluation of the Workshop's Instructors   Reliability(D) = 0.45

Item Number	Item Statement	Factor Coeff.
7	I learned more from my fellow participants than I did from the leaders and other experts who spoke to us.	.55
46	Project instructors covered the material too quickly.	.52

High scorers on this dimension judged that the workshop's instructors had covered the materials too quickly and so were not as helpful as fellow participants had been.

Low scorers on this dimension judged that the workshop's instructors had not covered the materials too quickly and had been as helpful or more helpful than fellow participants.

Table 29 (continued)

Cluster 5. Evaluation of the Workshop's Small-Group Activities Reliability(D) = 0.73

Item Number	Item Statement	Factor Coeff.
31	Working together in small groups was important to me.	.76
17	The small-group work sessions were helpful to me.	.74

High scorers on this dimension judged that the workshop's small-group activities had been important and helpful to them.

Low scorers on this dimension judged that the workshop's small-group activities were not important to them and had not been helpful.

Summary of Evaluation of Summer, 1968, Workshop

During the Summer of 1968, the further progress--indeed, the very existence--of the ESEA Title III Project, "County-Wide Direction for Family Life Education," was threatened by the social and political climate that prevailed, not only in Contra Costa County but throughout the state and the nation. For this reason, it was not possible to assemble a control group of teachers with which to compare the learnings and attitudes of the experimental group, i.e., those teachers who had participated in the summer, 1968, workshop in family life education. Hence it was not possible for the evaluation team to carry out fully its intended research design. Specifically, it was not possible to test hypotheses concerning the impact of the in-service training program upon sub-groups of teachers who participated in it. The evaluation of that workshop was necessarily limited, therefore, to analysis of the data obtained from the experimental group of teachers only. While such an analysis supports certain interesting descriptions and characterizations of the experimental teachers' learnings and attitudes, it does not yield evidence to support broader, more fully informative generalizations.

Within these limits, however, it was possible to conclude, on the basis of evidence gained from analysis of experimental teachers' scores on the OPI and SKI, that there were no significant differences between the four sub-groups (urban, rural, elementary, secondary) of teachers, either before or after their participation in the workshop, in either the cognitive or the affective domains. Further analysis of the pretest and post-test mean scores of the four sub-groups on the SKI revealed that the workshop produced a significant gain in knowledge of family life education, as measured by this instrument, in the teachers in all four groups. Unfortunately, however, it was not possible to conclude that marked increase in amount of sex knowledge of its participants was entirely attributable to the effective features of the workshop's program, that it was not due, at least in part, to the distinguishing characteristics--personal background, professional education and training, teaching experience, special motives and interests--of the participants themselves.

That the workshop was effective and did influence the knowledge, understandings, and attitudes of its participants, however, is evident from their own self-report of their experience which is reflected in their responses to the FLAI and the FLEQ. The findings which resulted from analysis of these responses indicate that the participants held strong positive attitudes toward family life education, particularly their role and responsibilities in developing and implementing school programs in this area, and that they felt that the Summer, 1968, workshop had contributed largely to their increased knowledge and understandings of family life education.

PART III

THE WINTER 1969 PROGRAM

THE WINTER, 1969, PROGRAM IN FAMILY LIFE EDUCATION

The in-service program in family life education conducted during the winter of 1969 was, in general, similar to one described in the Introduction of this report.

The Evaluation Design

In the winter of 1969, 77 teachers from Contra Costa County schools were selected as subjects for the evaluation program held during that period. Subjects were randomly assigned to experimental conditions: 50 to the experimental group; 27 to the control group.

As in previous evaluation designs, the independent variables considered were: (1) Type of Community (urban or rural), (2) Level of School (elementary or secondary), and (3) Experimental Condition. The dependent variables considered were: (1) knowledge of the aspects of family life education, particularly healthy sexuality, (2) attitude toward family life education, and (3) personality characteristics. Measures on these dependent variables were taken by pre- and post-testing according to the design followed in previous evaluations.

Regardless of how much the program increases the knowledge of teachers who participate in it, it cannot be finally judged to have been effective unless the students of those teachers also achieve a significant increase in knowledge. For this reason, the evaluation design for the program conducted in the winter of 1969, included an assessment of the knowledge attained by students of teachers in both the experimental and the control groups. The dependent variable considered was knowledge of family life education, particularly human sexuality. Measures on this variable were taken by means of the Family Life Knowledge Inventory (FLKI). IQ scores were used as a covariate to test for the initial similarity of students in the two groups.

For the purposes of evaluating the winter, 1969, in-service program, four major hypotheses were formulated for testing:

1. There are no significant differences on any of the demographic variables assessed by the Demographic Questionnaire between and among teachers in the eight comparison groups.

2. There are no significant differences between comparison groups of teachers on pretest measures of (1) knowledge of family life and human sexuality, taken by the Sex Knowledge Inventory, Form X - Adults, and (2) personality characteristics, taken by the 14 scales of the Omnibus Personality Inventory, Form Fy.

3. There are statistically significant differences between teachers in the experimental and control groups on post-test measures of the two dependent variables, (SKI and OPI).

4. There are statistically significant differences between the mean scores of students of teachers in the experimental and control groups on the Family Life Knowledge Inventory, with the students of teachers in the experimental group achieving higher mean scores.

Acceptance of these four hypotheses would imply that the significant differences between mean scores of teachers and students in the experimental and control groups are attributable to the impact of the training which the teachers in the experimental group received in the family life education workshop.

The Evaluation Instruments and Procedures

The instruments used in testing and measuring teachers for the evaluation of the workshop held in the winter of 1969 were those used in previous evaluations and described in the Introduction to this report.

The instrument used in testing the students of teachers in the experimental and control groups, the Family Life Knowledge Inventory (FLKI), is also described in the Introduction.

The 77 teachers who served as subjects for the evaluation of the winter, 1969, workshop were pretested in the fall of 1968 with the Omnibus Personality Inventory (OPI - Form Fy); the Sex Knowledge Inventory (SKI - Form X - Adults); the Family Life Attitude Inventory (FLAI), and the Demographic Questionnaire. At the conclusion of the workshop, the teachers in the experimental group were asked to perform the Family Life Education Q-Sort (FLEQ). In the spring of 1969, at the end of the Spring Semester, during which the subjects had taught courses or units in family life education, they were post-tested with the instruments listed above.

Also, at the end of the Spring Semester, 1969, the students of teachers in the experimental and control groups, who taught at the intermediate and secondary levels, were tested with the Family Life Knowledge Inventory (FLKI) and asked to respond to the Family Life Education Student Questionnaire (FLESQ). Previous to this time, the IQ scores of these students had been obtained from official school records to be used in the analysis of covariance to assess the initial similarity of students in the two groups.

The Sample

Tables 1 - 15 report the data obtained from the Demographic Questionnaire and indicate the personal background, academic and professional training, and teaching experience of the teachers who served as subjects for the evaluation of the winter, 1969, workshop. These data are dichotomized into experimental and control groups only because further division into urban and rural, elementary and secondary, did not yield significant differences in previous analyses. Inspection of these tables reveals the likelihood that there were no significant differences on the demographic variables between teachers in the experimental group and teachers in the control group before the formal underwent training in the workshop.

Analysis of the Demographic Data

Tables 1 - 15 also report the results of chi-square tests of the equality of the probability distribution of 14 demographic variables between the experimental and the control groups. These tests of homogeniety, which were controlled at the .05 level of probability, reveal that none of the differences in demographic characteristics indicated in Tables 1 - 15 are statistically significant. Therefore, any differences in post-test mean scores of the experimental and control groups of subjects are attributable to the effects of training that teachers in the experimental group received, rather than to *a priori* differences in the demographic characteristics of the two groups.

Table 1

Test for Differences in the Distributions of Age

Group	Age Span								
	20-30		31-40		41-50		51-60		Total
	#	%	#	%	#	%	#	%	
Control	6	22.2	8	29.6	10	37.0	3	11.1	27
Experimental	13	26.0	16	32.0	14	28.0	7	14.0	50
Total	19	24.7	24	31.1	24	31.1	10	13.0	77

$X^2 = .721$ Not Significant

$X_3^2\ (.95) = 7.815$

Table 2

Test for Differences in the Sex Distributions

Group	Sex				
	Men		Women		Total
	#	%	#	%	
Control	8	29.6	19	70.4	27
Experimental	10	20.0	40	80.0	50
Total	18	23.4	59	76.6	77

$X^2 = .921$ Not Significant

$\left[X_1^2\ (.95) = 3.841\right]$

Table 3

Test for Differences in Marital Status

Group	Marital Status						
	Married		Single		Divorced Separated or Widowed		Total
	#	%	#	%	#	%	
Control	22	81.5	3	11.1	2	7.4	27
Experimental	34	68.0	10	20.0	6	12.0	50
Total	56	72.7	13	16.9	8	10.4	77

$X^2 = 1.665$ Not Significant

$\left[X_2^2\,(.95) = 5.991\right]$

Table 5

Test for Differences in Experience

Group	Years of Teaching Experience										
	0-5		5-10		10-15		15-20		20+		Total
	#	%	#	%	#	%	#	%	#	%	
Control	5	18.5	5	18.5	10	37.0	3	11.1	4	14.8	27
Experimental	3	6.0	16	32.0	16	32.0	10	20.0	5	10.0	50
Total	8	15.6	21	27.3	26	33.8	13	16.9	9	11.7	77

$X^2 = 4.012$ Not Significant

$\left[X_4^2\ (.95) = 9.488\right]$

Table 6

Test for Differences in District Service

Group	Years in District										Total
	0-5		5-10		10-15		15-20		20+		
	#	%	#	%	#	%	#	%	#	%	
Control	10	37.0	8	29.6	6	22.2	1	3.7	2	7.4	27
Experimental	9	18.0	23	46.0	14	28.0	3	6.0	1	2.0	50
Total	19	24.7	31	40.2	20	26.0	4	5.2	3	3.9	77

$X^2 = 4.08$ Not Significant

$$\left[X^2_3(.95) = 7.815\right]$$

Note: The 15-20 and 20+ categories were combined for the Chi-square test.

Table 7

Test for Differences in Type of Undergraduate Colleges

Group	Type of Institution						Total
	Public		Private		Parochial		
	#	%	#	%	#	%	
Control	23	85.2	4	14.8	0	0.0	27
Experimental	38	76.0	9	18.0	3	6.0	50
Total	61	79.2	13	16.9	3	3.9	77

$X^2 = .888$ Not Significant

$$\left[X_1^2\ (.95) = 3.841\right]$$

Note: The Private and Parochial categories were combined for the Chi-square test.

Table 8

Test for Differences for Graduate Units

Group	Number of Graduate Units										Total
	15		30		45		60		60+		
	#	%	#	%	#	%	#	%	#	%	
Control	4	14.8	10	37.0	7	25.9	4	14.8	2	7.4	27
Experimental	6	12.0	19	38.0	10	20.0	8	16.0	7	14.0	50
Total	10	13.0	29	37.7	17	22.1	12	15.6	9	11.7	77

$X^2 = .388$ Not Significant

$X_4^2 (.95) = 9.488$

Table 9

Test for Differences in Experience in Family Life Education

Group	Family Life Education and Training										Total
	Course Work		Independent Reading		Community Programs		Other		None		
	#	%	#	%	#	%	#	%	#	%	
Control	6	22.2	10	37.0	0	0.0	6	22.2	5	18.5	27
Experimental	9	18.0	15	30.0	0	0.0	15	30.0	11	22.0	50
Total	15	19.5	25	32.5	0	0.0	21	27.3	16	20.8	77

$X^2 = .903$ Not Significant

$X_3^2 (.95) = 7.815$

Table 10

Test for Differences in In-Service Training

Group	Previous Family Life In-Service Program						Total
	0		1		2, 3, or 4		
	#	%	#	%	#	%	
Control	20	74.0	6	22.2	1	3.7	27
Experimental	38	76.0	6	12.0	6	12.0	50
Total	58	75.3	12	15.6	7	9.1	77

$X^2 = 2.594$ Not Significant

$$\left[X^2_2\,(.95) = 5.991\right]$$

Table 11

Test for Differences in Religious Affiliation

Group	Religious Affiliation								Total
	Protestant		Catholic		Agnostic or Athiest		Jewish		
	#	%	#	%	#	%	#	%	
Control	20	74.1	4	14.8	3	11.1	0	0.0	27
Experimental	32	64.0	10	20.0	5	10.0	3	6.0	50
Total	52	66.2	14	18.2	8	10.4	3	3.9	77

$X^2 = .850$ Not Significant

$$\left[X^2_2(.95) = 5.991\right]$$

Note: The Agnostic or Atheist and Jewish categories were combined for Chi-square test.

Table 12

Test for Home Life Differences

Group	Childhood Home Life								Total
	Unhappy		Poor		Good		Excellent		
	#	%	#	%	#	%	#	%	
Control	4	14.8	0	0.0	14	51.9	9	33.3	27
Experimental	2	4.0	4	8.0	31	62.0	13	26.0	50
Total	6	7.8	4	5.2	45	58.4	22	28.6	77

$X^2 = .764$ Not Significant

$\left[X^2_2 = 5.991\right]$

Note: The Unhappy and Poor categories were combined for the Chi-square test.

Table 13

Test for Differences in Childhood Community

Group	Childhood Setting								Total
	Rural		Urban		Suburban		Other		
	#	%	#	%	#	%	#	%	
Control	12	44.4	10	37.0	5	18.5	0	0.0	27
Experimental	15	30.0	19	38.0	14	28.0	2	4.0	50
Total	27	35.1	29	37.7	19	24.7	2	2.6	77

$X^2 = 2.22$ Not Significant

$$\left[X_2^2\,(.95) = 5.991\right]$$

Note: The Suburban and Other categories were combined for the Chi-square test.

Table 14

Test for Differences in Childhood Socioeconomic Status

Group	SES as Child						Total
	Upper		Middle		Lower		
	#	%	#	%	#	%	
Control	2	7.4	19	70.3	6	22.2	27
Experimental	3	6.0	42	84.0	5	10.0	50
Total	5	6.5	61	79.2	11	14.3	77

$X^2 = 2.01$ Not Significant

$$\left[X_1^2 = (.95) = 3.841\right]$$

Note: The Upper and Middle groups were combined for the Chi-square test.

Table 15

Test of Racial Differences

Group	Race				Total
	Non-White		White		
	#	%	#	%	
Control	1	3.7	26	96.3	27
Experimental	2	4.0	48	96.0	50
Total	3	3.8	74	96.2	77

Not Significantly Different

Analysis of Pretest and Post-Test Scores

As has been previously explained, in addition to being grouped by community type (urban and rural) and grade level (elementary and secondary), the teachers who served as subjects for the evaluation of the winter, 1969, workshop were randomly assigned to experimental and control conditions. They were pretested on the Omnibus Personality Inventory (OPI), the Sex Knowledge Inventory (SKI), and the Family Life Attitude Inventory (FLAI) so that the initial similarity of the two groups could be varified. They were post-tested on these same instruments so that any measurable changes due to the effects of workshop training might be assessed.

The statistical significance of differences in the mean scores of teachers in the three comparison groups on the OPI and SKI was tested by a multivariate analysis of variance in these scores. Table 16 reports the results of this test. Analysis of the pretest mean scores for the comparison groups reveals that there are no significant differences between them due either to main effects or interactions. This finding supports confidence that random assignment to experimental conditions was effective in obtaining similar groups, such that there were no significant differences between urban and rural teachers or between elementary and secondary school teachers. In contrast, analysis of the post-test mean scores of teachers in the comparison groups reveals significant differences in the most important factor, experimental condition. The significant difference between the post-test mean scores of teachers in the experimental and control groups was then clarified by further and more detailed analysis of these scores on the OPI and SKI.

Table 17 and Figure 1 indicate the initial similarity of the experimental and control groups prior to the conduct of the winter, 1969, workshop. There are no significant differences between the mean scores of the experimental and control teachers on the 14 scales of the OPI and on the SKI.

Table 18 and Figure 2 reveal the significant differences between the mean scores of the two groups of teachers on the post-testing with these instruments. The univariate F-tests were controlled at the .005 level in order to constrain the overall experiment error to about that of the multivariate F-test, which was controlled at the .05 level of probability. At this level, only the differences between mean scores on OPI Scale 10, Anxiety Level (AL), and the SKI were statistically significant. The subjects in the experimental group achieved significantly higher post-test scores on measures of these two variables, presumably because of the workshop training which they had received. The greater difference, and perhaps also the more important one, is that between the mean scores on the post-test of the SKI achieved by teachers in the experimental and control groups. Compared on the basis of their pretest-posttest gains in mean scores on the SKI, the experimental group gained 5.2 points while the control group averaged an increase of only 1.4 points. Compared on the basis of their post-test mean scores on the SKI, the experimental group scored an average 6.9 points (1.4 standard deviations) above the control group.

Table 16

Teacher OPI and SKI Scores

Multivariate Test of Equality of Means

Winter 1969

Pre-Test

Source of Variation	Multivariate F-Ratio	P less than
C	1.3871	.1867
S	1.4803	.1453
E	1.6418	.0925
C X S	.5710	.8974
C X E	1.6708	.0851
S X E	.7310	.7431
CXSXE	.2152	.9990

[$F_{15,55}(.95) = 1.8621$]

Post-Test

C	.5073	.9203
S	.9281	.5432
E	2.4963	.0124
C X S	1.0968	.4152
C X E	1.6950	.0969
S X E	.8357	.6344
CXSXE	.5445	.8965

[$F_{15,36}(.95) = 1.9786$]

Table 17

Teacher OPI and SKI Pre-Test Scores

Winter 1969

	Experimental Condition				
	Control (N = 27)		Experimental (N = 50)		Univariate
	$\bar{X}$	S	$\bar{X}$	S	F
OPI 1	25.1	8.4	25.1	7.2	.0521
OPI 2	17.2	4.3	17.5	5.8	.0077
OPI 3	13.4	4.6	12.5	4.7	1.3301
OPI 4	15.1	5.6	13.7	5.1	1.3634
OPI 5	27.2	8.2	29.3	6.3	1.1044
OPI 6	13.9	5.1	12.3	5.4	1.3864
OPI 7	24.5	6.7	26.1	6.4	1.2938
OPI 8	27.2	11.6	25.1	8.0	1.4720
OPI 9	37.4	9.7	41.7	7.5	4.3128
OPI 10	13.2	4.0	15.6	3.4	7.5576
OPI 11	24.0	6.4	26.2	5.1	2.9626
OPI 12	13.4	5.8	12.8	5.1	.1632
OPI 13	24.2	4.4	26.8	4.9	5.0096
OPI 14	13.6	4.8	14.6	4.5	.7194
SKI	48.6	6.3	51.7	6.9	2.4664

F - Ratio for Multivariate Test of Equality

1.6418 Not Significant

[$F_{15,55}(.95) = 1.8621$]

No Univariate F exceeds $F_{1,69}(.995) = 8.4078$

Figure 1

Plot of Teacher OPI and SKI Pre-Test Means

Experimental Condition Winter 1969

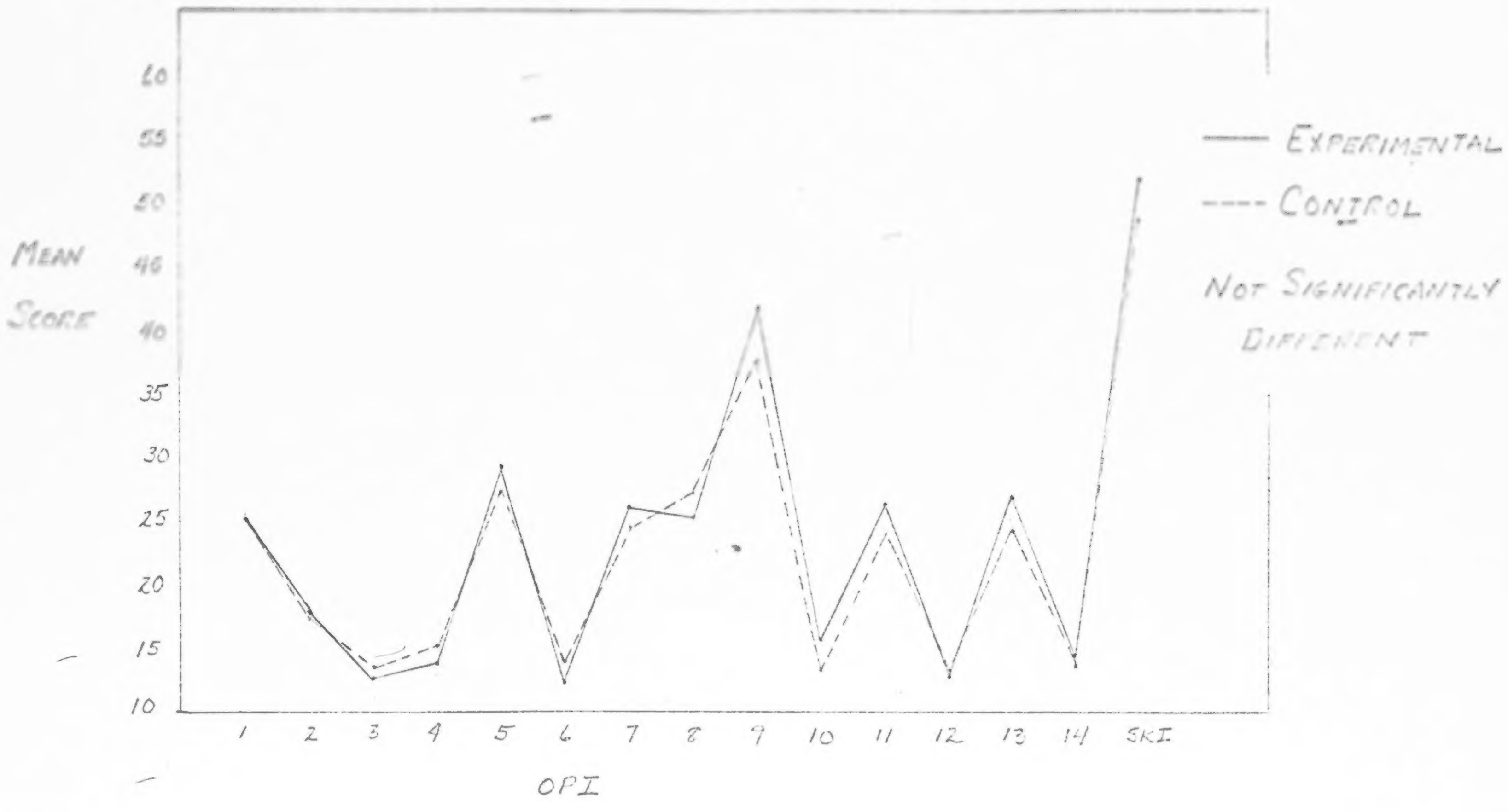


Table 18

Teacher OPI and SKI Post-Test Scores

Winter 1969

Experimental Condition

	Control (N = 22)		Experimental (N = 36)		Univariate
	$\overline{X}$	S	$\overline{X}$	S	F
OPI 1	26.0	7.1	27.8	6.9	.8215
OPI 2	18.1	3.8	20.1	5.5	1.7180
OPI 3	15.6	4.0	14.3	5.3	1.0008
OPI 4	15.0	5.1	16.3	5.0	.8402
OPI 5	29.4	7.0	30.6	5.6	.2818
OPI 6	14.5	5.6	14.4	4.8	.0010
OPI 7	25.1	5.9	26.0	6.1	.3047
OPI 8	27.7	12.7	24.4	9.0	1.3991
OPI 9	36.8	9.1	43.2	6.6	7.7043
OPI 10$^+$	13.4	3.2	16.3	2.9	11.5614
OPI 11	24.5	6.4	26.6	4.6	1.8429
OPI 12	13.4	5.1	12.6	5.1	..0253
OPI 13	24.0	3.9	26.6	5.0	4.3687
OPI 14	13.0	3.8	14.7	4.2	1.9899
SKI $^+$	50.0	4.9	56.9	4.9	21.0459

F - Ratio for Multivariate Test of Equality

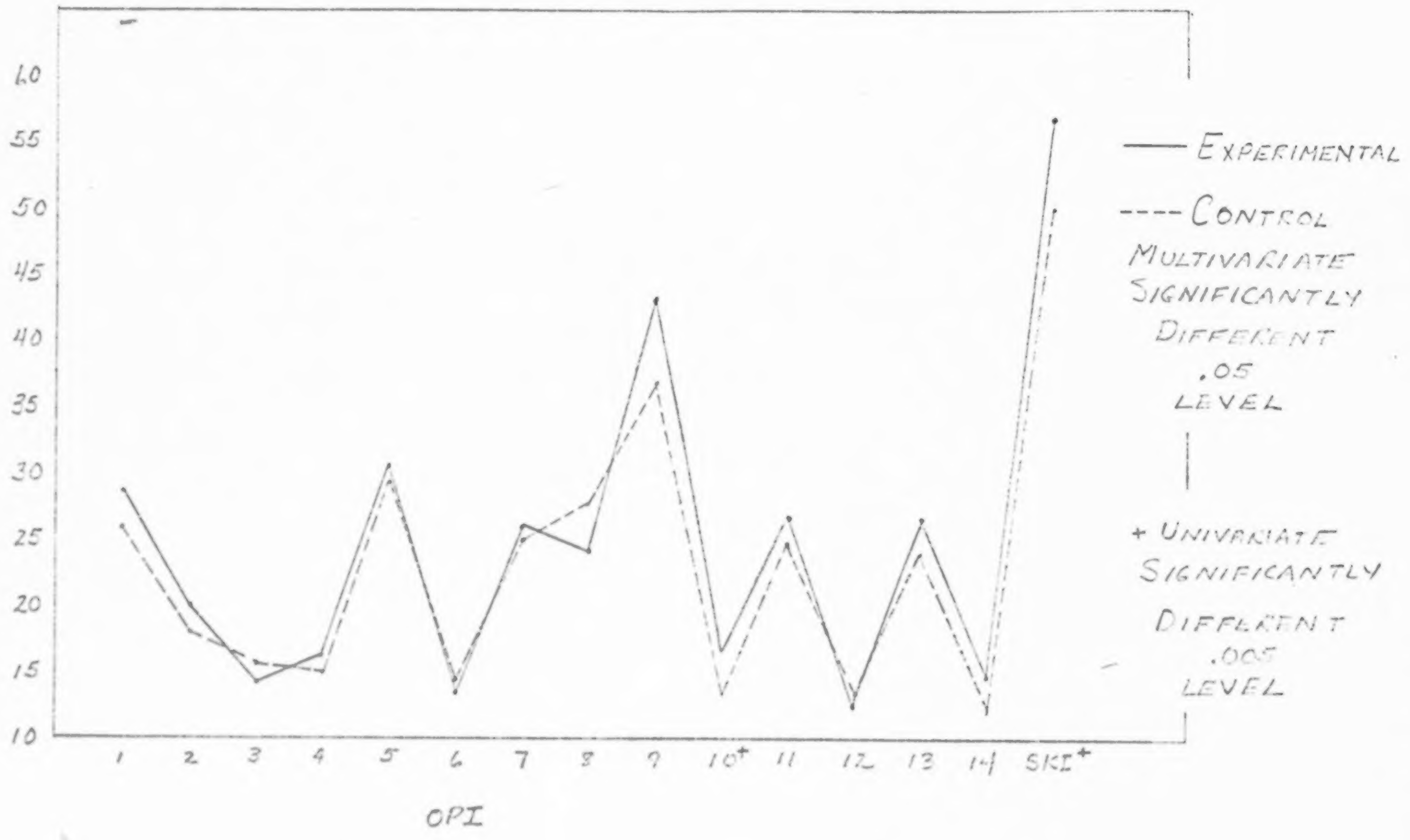
2.4963 Significant

$[\ F_{15,36}(.95) = 1.9786\ ]$

+ Univariate F exceeds $F_{1,50}(.995) = 8.66$

FIGURE 2

PLOT OF TEACHER OPI AND SKI POST-TEST MEANS
EXPERIMENTAL CONDITION WINTER 1969



The extent of the effect of the winter, 1969, in-service teacher training program on the SKI mean scores of teachers in the experimental and control groups can be seen in Tables 19 and 20 which present complete analysis of variance tables for their pretest and post-test scores. An estimate of the proportion of the total variance in post-test mean scores on the SKI explained by training effects is given by

$$\omega^2 = \frac{SS_{\text{Between E}}}{SS_{\text{Total}}} = \frac{487.59}{1804.85} = .27,$$

which means that there is a correlation of approximately .52 between SKI post-test scores and participation in the workshop. Thus the program's effects not only statistically significant but practically significant as well.

From these analyses of subjects' pretest and post-test scores on the OPI and the SKI, it would appear that, unlike the spring, 1968, workshop, the winter, 1969, in-service teacher training program made a significant impact on the anxiety level (OPI Scale 10) and the sex knowledge (SKI) of teachers who participated in it. What can explain this differential impact? No certain answer to this question can be given at this time, but the most logical explanation would be an increase in the effectiveness the project staff achieved with experience in planning, organizing, and conducting workshops in family life education. Should this explanation be the correct one, the evaluation of subsequent workshops should also reveal significant differences between the post-test means scores of subjects in the experimental and control groups.

Table 19

Teacher SKI Pre-Test

Winter 1969

Analysis of Variance Table

Source of Variation	Degrees of Freedom	Sum of Squares	Mean Squares	F
C	1	67.19	67.19	1.43
S	1	4.47	4.47	.09
E	1	116.11	116.11	2.46
C X S	1	.62	.62	.01
C X E	1	4.72	4.72	.10
S X E	1	3.93	3.93	.08
CXSXE	1	.67	.67	.01
Error	69	3248.43	47.08	----
Total	76	3446.14		

[$F_{1,69}(.995) = 8.41$]

Table 20

Teacher SKI Post-Test

Winter 1969

Analysis of Variance Table

Source of Variation	Degrees of Freedom	Sum of Squares	Mean Squares	F
C	1	1.17	1.17	.05
S	1	6.89	6.89	.30
E	1	487.59	487.59	21.05
C X S	1	4.74	4.74	.20
C X E	1	2.82	2.82	.12
S X E	1	140.76	140.76	6.08
CXSXE	1	2.48	2.48	.11
Error	50	1158.40	23.17	----
Total	57	1804.85		

[$F_{1,50}(.995) = 8.66$]

Analysis of Family Life Attitude Inventory Responses

The Family Life Attitude Inventory (FLAI) was given as a pretest and again as a post-test to the educators who served as subjects for the evaluation of the training program in family life education to (1) assess any initial differences in attitudes toward family life education among the comparison groups and (2) measure any subsequent changes in attitudes among these groups. No significant differences or changes were found between the levels of any of the three factors in the analysis, as the tables and graphs following indicate. Although no significant changes were found for either the experimental or the control group, and although no significant difference was found between them, either initially or subsequently, nonetheless the expressions of attitudes toward family life education are themselves of sufficient interest to warrant attention to the subject's responses to the FLAI.

Table 21 reports the means and standard deviations of the subjects' responses to the 44 items of the FLAI arranged in four categories and broken down by pretest and post-test and experimental and control groups. This table, then, indicates specific differences and changes in attitudes of the two groups toward particular factors presumably related to family life education.

Table 21

Means and Standard

to the Family Life

Winter

Category 1. The School in Family Life Education.

Item No. Item Statement

1. The school should make a contribution to strengthening the student's understanding of his sexual behavior patterns.

2. The home is the most appropriate place for students to learn about matters concerning sex.

3. Students need more knowledge concerning their relationships to their families.

4. In matters pertinent to sex and reproduction, the student is instructed best by the school.

5. Controversial matters concerning sex education and family living should not be taught to students by the school.

6. Sex education should be taught to students only after they have reached the age of puberty.

7. Classes concerning sex and reproduction should be co-educational.

8. Students' "slang" about matters concerning sex act as communication barriers between students and adults.

9. I feel that students want classes in sex education and family living.

10. Learning about sex and reproduction at an early age will lead to promiscuous activity by students at a later age.

11. The church is the most appropriate place for students to receive instruction toward the development of a healthy sexuality.

12. Matters concerning family interrelationships should be a part of the school curriculum.

Table 21

Deviations of Responses

Attitude Inventory

1969

Pretest				Posttest			
Experimental (N = 50)		Control (N = 27)		Experimental (N = 50)		Control (N = 27)	
Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
5.90	.96	6.11	.74	6.53	.55	6.27	.75
5.36	1.18	6.04	1.00	6.00	1.39	5.68	1.22
6.38	.69	6.19	.77	6.44	.64	6.45	.66
4.66	1.19	4.41	1.42	5.19	1.08	4.40	1.37
2.86	1.15	2.74	1.32	3.08	1.44	2.63	1.19
2.20	.94	2.33	1.25	2.31	.97	2.45	1.16
5.16	1.36	5.15	1.51	5.53	1.28	4.86	1.63
4.42	1.22	4.63	1.36	4.58	1.28	4.45	1.64
5.88	1.03	5.78	.83	6.11	.70	5.81	.83
1.96	.94	1.93	.90	1.78	.89	2.00	1.21
3.10	1.04	2.85	.85	2.94	1.15	2.50	.78
5.82	.99	5.70	.97	5.89	.81	6.09	.85

Table 21 (continued)

Category 2. The Family in Family Life Education.

Item No.	Item Statement
13.	Parents should leave matters concerning sex education to the school systems.
14.	Parents' approval should be acquired before discussing controversial subjects concerning sexual behavior in the classroom.
15.	Parents should be provided the opportunity to sanction or refute controversial subject matter taught in the school system.
16.	Family unity and communication is decreasing in modern society.
17.	Influence of the modern world on the family has made it necessary that the school assume a large part of the responsibility for developing moral and ethical values in students.
18.	In order to understand what it is the schools are trying to accomplish, parents should be given instruction and information concerning controversial subject matters.
19.	Students should be presented the negative as well as the positive aspects of family living.
20.	Parent-children relationships are things that must be learned by experiencing them.
21.	Communication problems between parents and children are a necessary part of a program in family life education.
22.	The churches should take over from the family the responsibility for educating young people for better personal and family living.

Pretest				Posttest			
Experimental (N = 50)		Control (N = 27)		Experimental (N = 50)		Control (N = 27)	
Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
2.16	.97	2.44	.96	2.39	.86	2.41	.98
4.14	1.54	4.37	1.77	4.67	1.68	4.91	1.24
4.28	1.20	4.56	1.64	4.61	1.44	4.64	1.61
5.36	.95	5.89	.87	5.67	1.20	5.73	1.05
4.76	1.49	5.26	1.11	5.36	1.29	5.27	1.14
5.86	.83	5.89	.79	6.08	.79	6.18	.72
5.60	.92	5.63	.78	5.83	.90	5.64	.64
4.24	1.38	4.07	1.44	4.22	1.73	4.18	1.56
5.62	1.52	5.48	1.23	5.61	1.40	6.00	1.04
3.04	1.04	3.15	1.21	2.78	1.13	2.91	1.20

Table 21 (continued)

Category 3. The Community in Family Life Education.

Item No.	Item Statement
23.	The community is not ready to accept the teaching of sex education in the school system.
24.	Community support is an essential factor if the school is to teach a course in sex education to the students.
25.	Communities in general are too conservative to give controversial subject matters a fair chance in the schools.
26.	The average member of a community is concerned about the school curriculum only when something controversial is introduced.
27.	There should be more community participation in matters concerning the school curriculum.
28.	Due to its effect on the community, publicity has delayed the development of needed courses concerning sex education.
29.	Lack of communication between the community and the schools is a key problem in initiating courses related to sex education.
30.	The public must be "prepared" by the schools before controversial subject matter will be accepted by the community.
31.	Community programs are needed concerning sex education.
32.	If communities were more aware of the problems of youth, the schools would have less opposition in the development and implementation of such subjects as sex education and reproduction.
33.	Our puritan heritage has tended to slow down the development of sex education programs in our schools.

Pretest				Posttest			
Experimental (N = 50)		Control (N = 27)		Experimental (N = 50)		Control (N = 27)	
Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
3.28	1.11	3.15	1.24	3.25	1.23	3.14	1.25
5.64	.79	5.33	1.15	6.08	.76	5.55	.78
3.66	1.26	3.48	1.45	3.94	1.41	3.91	1.31
4.62	1.31	4.63	1.06	5.33	1.15	5.14	1.06
4.66	1.23	5.00	1.28	5.28	1.28	5.59	.94
4.96	1.04	5.37	.95	5.75	.89	5.73	.86
5.18	1.16	5.30	1.05	5.64	1.16	5.50	.94
5.00	1.20	5.04	1.14	5.39	1.34	5.05	1.11
5.84	.73	5.74	.70	6.22	.71	5.64	.88
5.58	1.12	5.30	1.30	5.86	.89	5.32	1.14
5.64	.91	5.37	1.13	5.97	.96	5.50	.89

Table 21 (continued)

Category 4. The Teacher in Family Life Education.

Item No.	Item Statement
34.	The teacher has an important role in helping students learn what it is to be a man or woman in our modern society.
35.	Extensive preparation is necessary before a teacher is qualified to teach a course dealing with the psycho-sexual development of students.
36.	Developing a healthy sexuality in students should be a responsibility of teachers at all levels.
37.	Teaching a unit or course in family life education would be better than implementing related concepts into the content of other courses.
38.	Teaching or developing school programs should be in close cooperation with parents and parent groups.
39.	In teaching sex education, the schools should begin in kindergarten and continue in phase with the maturation of individual students through the 12th grade.
40.	Teachers should avoid teaching about contraceptive methods in the classroom.
41.	A teacher of sex education should avoid open discussions within the classroom about controversial topics concerning intercourse.
42.	In teaching "touchy" or controversial subject matter, teachers need to have in-depth training in communicating and sensing what their students are thinking.
43.	Even without special training in sex education, most teachers already possess the qualifications to teach such subject matter in the schools.
44.	Religious backgrounds of teachers may hinder their ability to effectively handle courses related to sex education and family living.

Pretest				Posttest			
Experimental (N = 50)		Control (N = 27)		Experimental (N = 50)		Control (N = 27)	
Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
6.10	.73	6.04	.84	6.03	.69	5.95	1.07
5.40	1.31	5.00	1.70	5.86	1.18	5.41	1.37
6.14	.85	5.93	.98	6.22	.92	6.09	.85
4.10	1.60	4.15	1.76	4.56	1.66	4.05	1.52
5.16	1.27	5.11	1.13	5.64	1.16	5.27	1.14
6.04	.85	5.70	1.08	6.31	.84	5.64	1.19
3.58	1.36	3.67	1.36	3.86	1.65	3.68	1.29
3.14	1.25	3.67	1.54	3.67	1.76	3.27	1.32
6.00	1.02	5.89	1.17	6.14	.71	5.82	1.23
3.02	1.14	2.78	1.20	2.69	1.24	2.50	1.23
4.58	1.37	4.67	1.15	5.06	1.29	4.59	.94

Regarding the role of the schools in family life education, the subjects in both the experimental and control groups felt that students need more knowledge about their relationships to their families (item 3); that the school should make a contribution to strengthening the students' understanding of sexual behavior patterns (item 1); that students want instruction in sex education and family living (item 9); and that matter concerning family interrelationships should be a part of the school curriculum (item 12); but also that the home is the most appropriate place for students to learn about sex (item 2). They do not believe that learning about sex and reproduction at an early age will lead to promiscuous activity at a later age (item 10); that students should learn about sex only after they have reached puberty; that controversial matters concerning sex and family living should not be taught by the school (item 5); or that the church is the most appropriate place for students to receive instruction toward the development of healthy sexuality (item 11). They are somewhat undecided about whether students are best instructed by the schools in matters of sex and family living (item 4); whether students' slang about matters concerning sex acts as a communication barrier between them and adults (item 8); or whether classes concerning sex and reproduction should be coeducational (item 7), though they seem to agree that they should.

Concerning the role of the family in family life education, the subjects in both the experimental and control groups again agree that family unity and communication is decreasing in modern society (item 16); that the influence of the modern world on the family has made it necessary that the school assume a large responsibility for developing moral and ethical values in students (item 17); that in order to understand what the schools are trying to accomplish, parents should be given instruction and information concerning controversial subject matters relating to sex and family living (item 18); that students should learn about the negative as well as the positive aspects of family living (item 19); and that communication problems between parents and children are a necessary part of the curriculum in family life education (item 21). They also agree in their negative view regarding the proposition that parents should leave matters concerning sex education to the schools (item 13), and the proposition that the churches should take over from the family the responsibility for educating young people for better personal and family living (item 22). Subjects in both groups appear somewhat undecided regarding the remaining items in this category.

Regarding the communities' role in family life education, the subjects in both the experimental and control groups continued to be in close agreement that community programs are needed concerning sex education and family living (item 31); that community support is an essential factor if the school is to offer such programs (item 24); that our Puritan heritage has tended to slow down the development of such programs in our schools (item 33); and that if communities were more aware of the problems of youth today, the schools would have less opposition in the development and implementation of such programs (item 32). Subjects in both groups negate the view that the community is not ready to accept the teaching of sex education and family life education in the schools (item 23), and also the view that communities are, in general, too conservative to give the schools a chance to teach controversial subject matters in these areas (item 25). They appear to be more or less in agreement in feeling that there should be more community participation in matters concerning the school curriculum (item 27) and that, due to its effect on the community, publicity has delayed the development of needed courses in sex and family life education

(Item 28), although there is also some slight disagreement between them on these matters. In any event, they agree that lack of communication between the community and the schools is a key problem in initiating courses relating to sex and family life education (item 29); and that the public must be "prepared" by the schools before controversial subject matter in these areas is introduced into the school's curriculum (item 30).

Finally, concerning the teacher's role in family life education, the subjects in both the experimental and control groups remain in agreement in strongly affirming the view that the development of a healthy sexuality in students should be a responsibility of the teacher at all levels (item 36); that the teacher has an important role in helping students learn what it is to be a man or a woman in our modern society (item 34); that the teaching of sex and family life education in the schools should begin in kindergarten and continue, in phase with the maturation of individual students, through the twelfth grade (item 39); and that, in teaching controversial subject matters in the areas of sex and family life education, teachers need to have in-depth training in communicating and sensing what their students are thinking (item 42). Indeed, they agree completely in affirming almost as strongly the proposition that extensive preparation is necessary before a teacher is qualified to teach a course dealing with the psycho-sexual development of students and in negating just as strongly the proposition that, even without special training in sex and family life education, most teachers already possess the qualification to teach such subject matters in the schools (items 35 and 43). Their initial agreement that teaching or developing school programs in these subject matters should be in close cooperation with parent groups (item 38) changes slightly when, after training in the workshop, the subjects in the experimental group tend to agree with this proposition more strongly than those in the control group. Subjects in both groups appear to be more or less alike in being somewhat undecided as to whether the religious backgrounds of teachers hinder their ability to handle effectively instruction in sex and family life education (item 44); and even more undecided whether the teacher should avoid open classroom discussions of controversial topics concerning sexual intercourse and the use of various contraceptive methods (item 40 and 41).

Inspection of Table 21 clearly reveals that there were no substantial differences between subjects in the experimental and control groups, either initially or following the workshop in which the former participated, and that the workshop did not substantially change the attitudes of the experimental group.

Cluster analysis of subjects' responses on the pretest with the FLAI yielded six meaningful clusters, which are described in Table 22. For the purposes of interpretation, the following descriptive designations have been assigned to the six clusters, based on the similarities among the items which were definers for each clurter:

Cluster 1 - The Role of the Teacher and the School in Family Life Education

Cluster 2 - Communication Barriers Between Students and Adults

Cluster 3 - Community Resistance to Family Life Education

Cluster 4 - Community-School Communication on Family Life Education

Cluster 5 - Classroom Discussion of Controversial Topics on Sex and Family Life Education

Cluster 6 - The Role of the Churches in Family Life Education

A high score on any cluster represents agreement with the defining items in the cluster (indicated by a "D" in parentheses following the item number) that have positive factor coefficients and disagreement with those that have negative factor coefficients. Hence a strong belief that the teachers and schools have an important role in sex and family life education; that there are communication barriers between students and adults; the communities resist schools' efforts to provide sex and family life education; the schools should communicate with and prepare the community to accept the introduction of controversial subject matters, such as sex and family life education, into the curriculum; teachers should avoid classroom discussion of controversial topics in sex and family life education; and the church should have responsibility for sex and family life education, would be represented by scores near to the upper limits on these six dimensions.

Table 22

Clusters Among Responses to the

Family Life Attitude Inventory

Winter, 1969

Cluster 1. The Role of Teachers in FLE Reliability (D) = .90

Item No.	Item Statement	Factor Coefficient
36(D)	Developing a healthy sexuality in students should be a responsibility of teachers at all grade levels.	.97
39(D)	In teaching sex education the schools should begin in kindergarten and continue in phase with the maturation of individual students through the 12th grade.	.87
34(D)	The teacher has an important role in helping students learn what it is to be a man or a woman in our modern society.	.75
32(D)	If communities are more aware of the problems of youth, the schools would have less opposition in the development and implementation of such subjects as sex education and human reproduction.	.63

High scorers on this dimension feel that teachers and the schools should take responsibility for offering students continuous programs in family life education and for helping them develop healthy sexuality.

Low scorers on this dimension question the role of teachers and the schools in providing family life education programs and helping them develop healthy sexuality.

Cluster 2. Communication Barriers Between Students and Adults Reliability (D) = .74

Item No.	Item Statement	Factor Coefficient
8(D)	Students' "slang" about matters of sex acts as a communication barrier between students and adults.	.94
16(D)	Family unity and communication is decreasing in modern society.	.52

Table 22 (continued)

High scorers on this dimension believe that communication between students and adults in the family and in the community is impeded, in large part by the students' slang about sex.

Low scorers doubt that such communications barriers exist or are caused by students' slang about sex.

Cluster 3. Community Resistance to FLE Reliability (D) = .70

Item No.	Item Statement	Factor Coefficient
26(D)	The average member of a community is concerned about the school curriculum only when something controversial is introduced or implemented.	.87
25(D)	Communities in general are too conservative to give controversial subject matters a fair chance in the schools.	.61
28(D)	Due to its effect on the community, publicity has delayed the development of needed courses in family life education.	.47

High scorers on this dimension believe that, largely because of unfavorable publicity, communities resist the schools' efforts to develop and implement courses in controversial subject matters such as family life education.

Low scorers do not believe that communities are, in general, so conservative, so influenced by unfavorable publicity, or so unconcerned as to resist the schools' efforts to provide programs of family life education, even though they include controversial topics.

Cluster 4. Community-School Communication Reliability (D) = .78

Item No.	Item Statement	Factor Coefficient
30(D)	The public must be "prepared" by the schools before controversial subject matters will be accepted by the community.	.73
14(D)	Parents' approval should be acquired before discussing controversial subjects concerning reproduction and sexual behavior in the school.	.71
29(D)	Lack of communication between the community and the schools is a key problem in initiating courses in sex and family life education.	.66

Table 22 (continued)

High scorers on this dimension think that community-school communication is a key factor in the acceptance of family life education, particularly sex education, by the community in general and the parents of school children in particular.

Low scorers on this dimension do not think the matter of community-school communications is so crucial to acceptance of family life education programs and would not require parents' approval of classroom discussions of controversial matters such as sex education.

Cluster 5. Classroom Discussion of Controversial Topics in Sex Education — Reliability (D) = .89

Item No.	Item Statement	Factor Coefficient
40(D)	Teachers should avoid teaching about contraceptive methods in the classroom.	.86
41(D)	A teacher of sex education should avoid open discussions in the classroom about controversial topics concerning sexual intercourse.	.84

High scorers on this dimension feel that teachers should avoid classroom discussion of controversial matters concerning sex.

Low scorers on this dimension feel that teachers should not avoid classroom discussion on such controversial matters as contraceptive methods and sexual intercourse.

Cluster 6. The Role of the Church in FLE — Reliability (D) = .60

Item No.	Item Statement	Factor Coefficient
11(D)	The church is the most appropriate place for students to receive instruction toward the development of a healthy sexuality.	-.67
23	The community is not ready to accept the teaching of sex education in the schools.	.55
22	The churches should take over the chief responsibility for educating young people for better personal and family living.	-.47
25(D)	Communities in general are too conservative to give controversial subject matters a fair chance in the schools.	.45

Table 22 (continued)

High scorers on this dimension believe that the churches, not the schools, should have the responsibility for educating young people for better personal and family living and particularly for helping them develop a healthy sexuality.

Low scorers on this dimension feel that communities are not so conservative about the schools teaching controversial subject matters and that the schools, rather than the churches, should take responsibility for sex and family life education.

In order to compare the pretest and post-test responses of subjects in the experimental and control groups to the attitude clusters of the Family Life Attitude Inventory, the oblique factor coefficients of the defining items in each cluster were used to compute weighted mean cluster scores for each group. Table 23 reports the results of multivariate analysis of variance in the cluster scores thus computed, and Figure 3 graphically represents the close similarities between the experimental and control groups' mean scores on each of the six clusters of the FLAI. The mean cluster scores of both comparison groups are positive on only the first three clusters, indicating that the subjects believe in the importance of the teachers' and the schools' role in family life education but feel obstructed by the community they serve. The moderate mean scores of both groups on clusters 4 and 5 indicate that the subject teachers do not wish to confront their communities but rather to communicate openly and informatively with them and with parents and students as well. The low mean scores of both groups on Cluster 6 indicates that they do not think the churches, rather than the schools, should have primary responsibility for providing sex and family life education for the young people in the community, feeling perhaps that the churches' main concern should be the soul and not the body.

Table 23

Teacher FIAI Cluster Scores

Winter 1969

Pre-Test

	Control Mean	Experimental Mean	S_p	Univariate F
Cluster 1	32.93	33.97	3.70	.9456
Cluster 2	7.38	6.91	1.46	1.8095
Cluster 3	18.51	18.54	2.12	.0056
Cluster 4	10.54	9.74	2.16	.2670
Cluster 5	6.26	5.74	2.10	1.0685
Cluster 6	1.37	1.36	1.27	.0023

F - Ratio for Multivariate Test of Means

.6872 Not Significant

[$F_{6,70}(.95) = 2.3750$]

No Univariate F exceeds $F_{1,75}(.99) = 7.00$

Post-Test

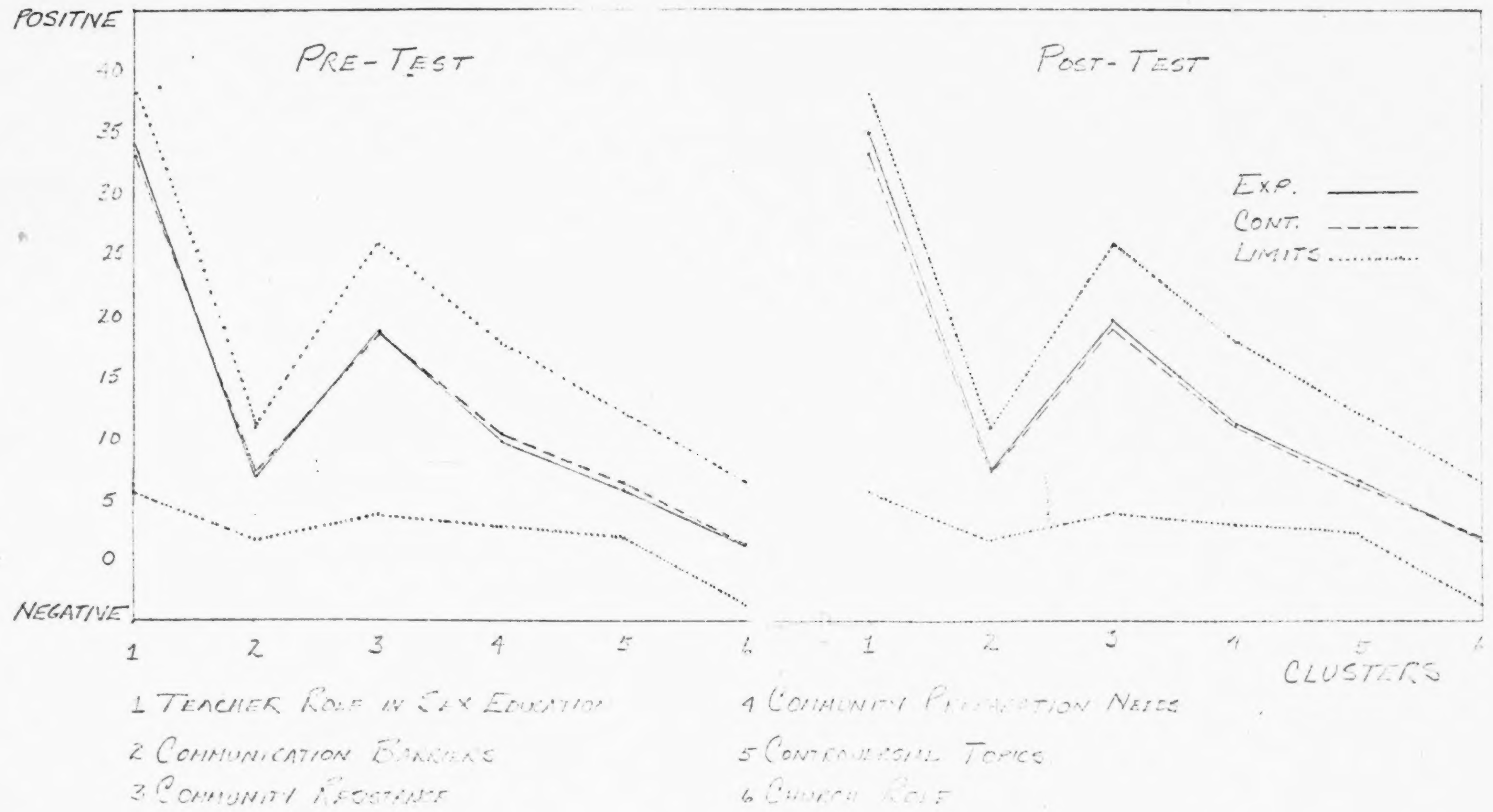
Cluster 1	33.38	34.91	3.00	3.4277
Cluster 2	7.10	7.22	1.64	.0717
Cluster 3	18.86	19.51	1.84	1.6552
Cluster 4	10.85	10.93	1.71	.0323
Cluster 5	5.98	6.43	2.43	.4507
Cluster 6	1.88	1.57	1.27	.7684

F - Ratio for Multivariate Test of Means

.5254 Not Significant

No Univariate F exceeds $F_{1,55}(.99) = 7.16$

FIGURE 3
TEACHER FLAI CLUSTER MEANS
WINTER 1969



Analysis of Family Life Education Q-Sort Responses

The Family Life Education Q-Sort (FLEQ) was given to the subjects in the experimental group at the conclusion of the workshop held in the winter of 1969, in order to evaluate the training program from their point of view. Table 24 reports the means and standard deviations of their responses to the 56 items of the FLEQ grouped in five categories: (1) value of the curriculum of the workshop, (2) value of the instructional procedures used in the workshop, (3) value of the workshop's organization and operation in general, (4) change in the participants' knowledge and understandings, and (5) change in participants' attitudes toward family life education. Within these five categories the items are arranged in ascending order by item mean scores. An item with a mean score from 1.00 to 3.00 is one with which the participants expressed firm-to-strong agreement. An item with a mean score from 5.00 to 7.00 is one with which participants expressed firm-to-strong disagreement. And an item with a means score between 3.00 and 5.00 is one about which participants were more or less undecided or unwilling to commit themselves.

Table 24

Means and Standard Deviations of Responses to the FLE Q-Sort

Category 1. Value of the Curriculum of the Workshop.

Item No.	Item Statement	Mean	S.D.
41.	The material on the teacher's emotional preparation was valuable.	1.88	1.34
35.	The material on the communication problems of children was valuable.	2.60	1.46
36.	The special instructional materials for family life education were valuable.	2.82	1.18
19.	The material on curriculum development for family life education was valuable.	3.24	1.35
37.	The material on teaching methods for sex education was valuable.	3.32	1.54
1.	The materials on human growth and development were valuable.	3.50	1 38
18.	The material on how to teach specific topics (e.g., sex, family relations, etc.) was valuable.	3.62	1.43
2.	The material on human reproduction was valuable.	4.18	1.24

Category 2. Value of the Instructional Procedures Used in the Conduct of the Workshop.

Item No.	Item Statement	Mean	S.D.
22.	The lectures in the project were valuable to me.	1.80	1.00
34.	Consultants who worked with teachers individually or in small groups were helpful to me.	2.38	1.48
31.	Working together in small groups was important to me.	2.52	1.57
17.	The small work group sessions were helpful.	2.52	1.57

Table 24 (continued)

Item No.	Item Statement	Mean	S.D.
33.	Meeting agency workers, community leaders, or other non-school personnel was worthwhile.	2.56	1.54
24.	The discussion following formal presentations was valuable to me.	2.64	1.48
26.	The reading which I did as part of the project was valuable to me.	3.00	1.52
25.	The films, records, tapes, etc. were valuable.	3.40	1.36
27.	The role-playing which we did in the project was valuable to me.	3.62	1.84
30.	Being together in one large group for activities was important to me.	4.22	1.33
29.	Doing the assigned written work was worthwhile.	4.52	1.65
23.	The panel discussions in the project were valuable to me.	4.94	1.80
21.	Observing the teaching of sex education was worthwhile.	5.12	1.89
32.	Working by myself was important to me.	5.46	1.30
28.	The replaying of activities through video or audio tapes was of value.	5.66	1.24
20.	The actual teaching or tutoring which I did as part of the project was valuable.	6.22	1.04
16.	Visiting other projects similar to ours was worthwhile.	6.38	1.06

Category 3. Value of the Organization and Operation of the Workshop in General Terms.

Item No.	Item Statement	Mean	S.D.
9.	Consultants who themselves had participated in family life education offered valuable advice on teaching sex education.	2.44	1.33
38.	Those sessions when participants were absolutely frank, and even angry, were valuable.	2.50	1.59

Table 24 (continued)

Item No.	Item Statement	Mean	S.D.
10.	Developing skills and techniques for teaching family life education was a major part of this project.	3.28	1.71
39.	The activities which "just happened" were of more value than those that were planned.	4.52	1.66
42.	Too often in the project, I was just listening or watching rather than actively doing something.	4.56	1.65
7.	I learned more from my fellow participants than I did from the leaders and other experts who spoke to us.	4.74	1.49
50.	Curriculum development was not sufficiently covered in this project.	4.82	1.56
53.	There was little emphasis on major evaluation.	5.02	1.21
46.	Project instructors covered the material too quickly.	5.18	1.47
3.	The project was too "middle class" in its philosophy and operation.	5.28	1.44
40.	Having contact with parents and members of the community was worthwhile.	5.46	1.71
43.	A better project would have resulted if participants had made more of the decisions about its day-to-day operations.	5.54	1.24
44.	This project put too much emphasis upon the sexual problems of students.	5.62	1.18
47.	The leaders put too much emphasis on dispensing information and not enough on getting us to explore our feelings.	5.66	1.24
56.	A better project would have resulted if participants had had a bigger part in its planning.	5.70	1.19
45.	This project's format should be changed.	5.96	1.48

Table 24 (continued)

Category 4. Changes in Participants' Knowledge and Understandings of Family Life Education.

Item No.	Item Statement	Mean	S.D.
8.	This project increased my knowledge about communication and social relationships.	1.88	1.09
13.	This project increased my understanding of the importance of the emotional development of children.	2.00	1.39
5.	This project increased my knowledge of family life education and its position in the schools.	2.16	1.22
51.	I learned very little from the project about the effects of a home environment upon a student's sexual conduct.	5.00	1.25
48.	I learned very little from the project about instructional materials and curricula for family life education.	5.38	1.55
54.	This project did little to increase my awareness of the resource materials available for family life education.	5.48	1.62
49.	This project contributed little to my awareness of the problems that confront the youth of today.	5.50	1.24

Category 5. Changes in Participants' Attitudes Toward Family Life Education.

Item No.	Item Statement	Mean	S.D.
6.	This project convinced me that students should have more knowledge about family relations than is obtained in the home.	1.78	.94
12.	I am more self-confident in dealing with sex education as a result of this project.	2.30	1.17
11.	This project has led me to feel that students need more individual attention on problems concerning sexual maturity.	2.36	1.26
14.	This project convinced me that students should have a biological self-understanding.	2.44	1.28

Table 24 (continued)

Item No.	Item Statement	Mean	S.D.
15.	As a result of this project I intend to become more familiar with the background of the sexual behavior of my students.	4.06	1.70
52.	This project made me only slightly more aware of the moral and ethical aspects of teaching family life education.	4.26	1.74
55.	As a result of this project I am only slightly better qualified to teach sex and family life education than I was before the project began.	4.44	1.73
4.	I have to admit that I am as critical of sex and family life education as I was before this project began.	6.32	1.16

In order to present a clearer picture of the participants' evaluation of the workshop, and particularly of its impact on them, Table 25 reports the lowest and highest item mean scores within each of the five categories. Those items having the lowest mean scores (above the dotted line) are the ones with which participants expressed strongest agreement; those having the highest mean scores (below the dotted line) are the ones with which participants expressed strongest disagreement. Inspection of Table 25, therefore, reveals which curriculum materials, instructional procedures, organizational and operational characteristics, and outcomes of the workshop the participants valued most and least, as these assessments are indicated by their responses to the 56 items of the FLEQ.

Table 25

Lowest and Highest Mean Responses to the Family Life Education Q-Sort

Category 1. Value of the Curriculum of the Workshop.

Item No.	Item Statement	Mean	S.D.
41.	The material on the teacher's emotional preparation was valuable.	1.88	1.34
35.	The material on the communication problems of children was valuable.	2.60	1.46
. . . . . .	. . . .	. . . . .	. . . . .
18.	The material on how to teach specific topics (e.g., sex, family relations, etc.) was valuable.	3.62	1.43
2.	The material on human reproduction was valuable.	4.18	1.24

Category 2. Value of the Instructional Procedures Used in the Conduct of the Workshop.

Item No.	Item Statement	Mean	S.D.
22.	The lectures in the project were valuable to me.	1.80	1.00
34.	Consultant who worked with teacher individually or in small groups were helpful to me.	2.38	1.48
31.	Working together in small groups was important to me.	2.52	1.57
. . . . . .	. . . .	. . . . .	. . . . .
28.	The replaying of activities through Video or audio tapes was of value.	5.66	1.24
20.	The actual teaching or tutoring which I did as part of the project was valuable.	6.22	1.04
16.	Visiting other projects similar to ours was worthwhile.	6.38	1.06

Table 25 (continued)

Category 3. Value of the Workshop's Organization and Operation.

Item No.	Item Statement	Mean	S.D.
9.	Consultants who themselves had participated in family life education offered valuable advice on teaching sex education.	2.44	1.33
38.	Those sessions when participants were absolutely frank, and even angry, were valuable.	2.50	1.59
10.	Developing skills and techniques for teaching family life education was a major part of the activity of this project.	3.28	1.71
. . .	. . .	. . .	. . .
47.	The leaders put too much emphasis on dispensing information and not enough on getting us to explore our feelings.	5.66	1.24
56.	A better project would have resulted if participants had had a bigger part in its planning.	5.70	1.19
45.	This project's format should be changed.	5.96	1.48

Category 4. Changes in Participants' Knowledge and Understandings of Family Life Education.

Item No.	Item Statement	Mean	S.D.
8.	This project increased my knowledge about communication and social relationships.	1.88	1.09
13.	This project increased my understanding of the importance of the emotional development of children.	2.00	1.39
. . .	. . .	. . .	. . .
54.	This project did little to increase my awareness of the resource materials available for family life education.	5.48	1.62
49.	This project contributed little to my awareness of the problems that confront the youth of today.	5.50	1.24

Table 25 (continued)

Category 5. Changes in Participants' Attitudes Toward Family Life Education.

Item No.	Item Statement	Mean	S.D.
6.	This project convinced me that students should have more knowledge about family relations than is obtained in the home.	1.78	.94
12.	I am more self-confident in dealing with sex education as a result of this project.	2.30	1.17
. . .	. . . .	. . .	. . .
55.	As a result of this project I am only slightly better qualified to teach sex and family life education than I was before the project began.	4.44	1.73
4.	I have to admit that I am as critical of sex and family life education as I was before this project began.	6.32	1.16

From Table 25 it can be seen that the participants in the winter, 1969, workshop judged that the materials on the teacher's emotional preparation for teaching family life education and on children's communication problems in this area were most valuable to them. Of all the instructional procedures used in conducting the workshop, the participants valued most highly the lectures and the individual and small-group sessions with consultants. In assessing the workshop's organization and operation, the participants set the highest value on consultants who themselves had participated in family life education and so offered valuable advice on teaching sex education, and also on those sessions of the workshop in which participants had been absolutely frank, and even angry, in expressing their thoughts and feelings about family life education. They also valued highly the activities of the workshop that were designed to help them develop skills and techniques for teaching family life education. Overall, they judged the workshop to have been a well-planned and well-conducted in-service teacher training program whose present format they would have no reason to change.

It would appear from Table 25 that the participants in the winter, 1969, workshop were influenced markedly by their experience. They acknowledge substantial increases in their knowledge and understandings of family life education, particularly of the importance of communication to social relationships and of the emotional development of children. They also felt they had gained increased awareness of the problems that confront the youth of today and of the resources for helping them solve those problems through programs of family life education. They also acknowledged notable improvements in their attitudes toward family life education. They were convinced by their participation in the workshop that students should have more knowledge about family relationships than they obtain in their homes, and, as a result of their participation they felt more self-confident in helping students gain such knowledge from programs of sex and family life education. In general, they judged themselves to be less critical of sex and family life education than they were before taking part in the workshop and to be notably better qualified to teach these subject matters in the schools as a result of their participation.

The consensus of participants' responses to the FLEQ signifies that, in their judgment, the winter, 1969, workshop was an effective in-service teacher training program.

Although the tables of mean responses to the FLEQ yield a great deal of information about participants'evaluation of the workshop as it is described and characterized by individual items, analysis of patterns of responses to various groups of these items can yield additional significant information. Once again, therefore, the FLEQ data were subjected to cluster analysis, the results of which are reported in Table 26. For the purposes of interpretation, the six clusters found among responses to the FLE Q-Sort have been assigned the following descriptive designations, based on the relationships among the defining items of each cluster:

Cluster 1 - Value of the Workshop's Operation and Outcomes

Cluster 2 - Value of the Workshop's Materials and Experiences

Cluster 3 - Value of the Workshop's Planned Activities

Cluster 4 - Value of the Workshop's Emphasis on Students' Problems

Cluster 5 - Value of the Workshop's Small-Group Activities

Cluster 6 - Value of the Workshop's Emphasis on Emotional Development of Children and Preparation of Teachers

A high score on any cluster signifies agreement with those defining items (indicated by a "D" following the item number) having positive factor coefficients and disagreement with those having negative factor coefficients. Thus, high cluster scores on Clusters 1, 3, and 4, would indicate somewhat critical assessments of the workshop's program, while high scores on Clusters 2, 5, and 6, would indicate favorable judgment of the workshop's activities and emphases. Scoring of participants' responses on attitude clusters would thus reveal their evaluation of six general features of the in-service teacher training program in family life education held in the winter of 1969, which, as we have seen, was highly favorable.

Table 26

Clusters Found Among Responses to the Family Life Education Q-Sort

Winter, 1969

Cluster 1. Value of the Workshop's Operation and Outcomes. Reliability(D) = .81

Item No.	Item Statement	Factor Coefficient
24(D)	The discussion following formal presentations was valuable to me.	-.78
45(D)	This project's format should be changed.	.75
55(D)	As a result of the project I am only slightly better to teach sex and family life education than I was before the project began.	.66
3(D)	The project was too "middle class" in its philosophy and operation.	.58
52	This project made me only slightly more aware of the moral and ethical aspects of teaching family life education.	.48
35	The material on the communication problems of children was valuable.	-.46

High scorers on this dimension are strongly critical of the project's organization, operation, and outcomes and do not feel that the discussions following formal presentation or the materials on the communication problems of children was valuable to them.

Low scorers on this dimension feel these procedures and materials were valuable to them and would not criticize the workshop's operation as "middle class" or its outcomes as "slight."

Cluster 2. Value of the Workshop's Materials and Experiences. Reliability(D) = .81

Item No.	Item Statement	Factor Coefficient
18(D)	The material on how to teach specific topics (e.g., sex, family relations, etc.) was valuable.	.79

Table 26 (continued)

Item No.	Item Statement	Factor Coefficient
48(D)	I learned very little from the project about instructional materials and curricula for family life education.	-.74
21(D)	Observing the teaching of sex and family life education was valuable.	.57
51(D)	I learned very little from the project about the effects of a home environment upon a student's sexual conduct.	-.55
10	Developing skills and techniques for teaching family life education was a major part of the activity of this project.	.54
19	The material on curriculum development for family life education was valuable.	.49
4	I have to admit that I am as critical of sex and family life education as I was before this project began.	-.44

High scorers on this dimension value the workshop's materials and experiences relating to development of curricula, skills, techniques, and materials for teaching family life education and acknowledge that their participation has increased their knowledge of environmental conditioning of sexual behavior and modified their attitude toward sex and family life education.

Low scorers on this dimension do not value highly these materials and experiences and do not feel that their participation in the workshop increased their knowledge or modified their attitude toward family life education.

Cluster 3. Value of the Workshop's Planned Activities. Reliability(D) = .70

Item No.	Item Statement	Factor Coefficient
33(D)	Meeting agency workers, community leaders, or other non-school personnel was worthwhile.	-.76
39(D)	The activities which "just happened" were of more value than those that were planned.	.71
22	The lectures in the project were valuable to me.	-.48
47(D)	The leaders put too much emphasis on dispensing information and not enough on getting us to explore our feelings.	.46

Table 26 (continued)

Item No.	Item Statement	Factor Coefficient
26	The reading which I did as part of the project was valuable to me.	-.45

High scorers on this dimension are critical of the workshop's planned activities and favor those that "just happened"; they feel that the lectures, the contacts with non-school personnel, and the assigned reading put too much emphasis on dispensing information and not enough on exploring feelings.

Low scorers on this dimension value the lectures, reading, and contacts; they feel these planned activities were as worthwhile as, and perhaps more valuable than, those that "just happened," and they do not feel there was an imbalance between information-dispensing and feeling-exploring activities in the workshop's program.

Cluster 4. Value of the Workshop's Emphasis on Students' Problems. Reliability(D) = .77

Item No.	Item Statement	Factor Coefficient
44(D)	This project put too much emphasis upon the sexual problems of students.	.76
1(D)	The material on human growth and development was valuable.	.71
53	There was little emphasis on major evaluation in this project.	.36
2	The material on human reproduction was valuable.	.34

High scorers on this dimension are critical of the workshop's emphasis upon students' sexual problems and the evaluation of family life education programs designed to meet them; they value instead the workshop's materials on the natural and normal processes of human growth, development, and reproduction.

Low scorers on this dimension approve of the workshop's emphasis on the sexual problems of students and the evaluation of educational programs to help them; they do not value so highly the workshop's materials on human growth, development, and reproduction.

Cluster 5. Value of the Workshop's Small-Group Activities. Reliability(D) = .77

Item No.	Item Statement	Factor Coefficient
31(D)	Working together in small groups was important to me.	.79
17(D)	The small group work sessions were helpful to me.	.76

Table 26 (continued)

Item No.	Item Statement	Factor Coefficient
27	The role-playing which we did in the project was valuable to me.	.54
34	Consultants who worked with teachers individually or in small groups were helpful.	.54
9	Consultants who themselves had participated in family life education offered valuable advice on teaching sex education.	.46
38	Those sessions when participants were absolutely frank, and even angry, were valuable.	.43

High scorers on this dimension are warmly appreciative of the opportunities the workshop afforded for such small-group activities as discussion, consulting, role-playing, and sensitivity training.

Low scorers on this dimension did not find the small-group activities of the workshop particularly valuable or helpful to them.

Cluster 6. Value of the Workshop's Emphasis on Emotional Development and Preparation. Reliability(D) = .56

Item No.	Item Statement	Factor Coefficient
13(D)	This project increased my understanding of the importance of emotional development of children.	.64
16	Visiting other projects similar to ours was worthwhile.	-.61
54(D)	This project did little to increase my awareness of the resource materials available for family life education.	.54
20	The actual tutoring or teaching which I did as part of this project was valuable.	-.51
36	The special instructional materials for family life education were valuable.	-.43
41	The material on the teacher's emotional preparation for family life education was valuable.	.37

High scorers on this dimension value highly the workshop's emphasis on the emotional development of children and the emotional preparation of teachers; they did not find the emphasis on special instructional resources and materials particularly valuable to them.

Table 26 (continued)

Low scorers on this dimension did not find the workshop's emphasis on emotional development and preparation especially worthwhile, but they value their increased familiarity with instructional resources and materials for family life education.

Analysis of Students' IQ and Family Life Knowledge Inventory

Analysis of the subject teachers' responses to the FLAI and the FLEQ was designed to assess the impact that the winter, 1969, workshop had upon participants' knowledge of and attitudes toward family life education. Regardless of its effectiveness in achieving its objectives and certain desirable outcomes with the teachers who participated in it, the workshop cannot be judged a complete success as an in-service teacher training program unless the students of these teachers in the experimental group out-perform those of the teachers in the control group. The instrument used to make this comparison was the Family Life Knowledge Inventory (FLKI). Standardized intelligence tests and IQ scores were used to assess the initial comparability of the experimental and control groups. Data were collected from fourteen classes of students of the teachers in the experimental group and four classes of students of the teachers in the control group, all at the intermediate and secondary grade levels.* Analysis of these data was carried out in two ways, both of which are presented here. In the first analysis, the individual student is taken as the experimental unit; in the second, the class of students is taken as the experimental unit.

The results of the first analysis, a test of the equality of the students across experimental condition and school level, are presented in Table 27, which reports the analysis of variance in their IQ scores. On the more important first factor, experimental condition (C), the students were found to be equal. On the second factor, school level (L), they were found to be significantly different. Comparison of their mean IQ scores clearly reveals that the intermediate school students in the sample have significantly higher IQ scores than the secondary school students. Furthermore, there is a significant interaction between the two factors, experimental condition and school level (C x L), because, as subsequent analysis reveals, the secondary school control group has a significantly higher mean IQ score than the secondary school experimental group, while the intermediate school experimental and control groups are not significantly different in mean IQ scores.

---

* By the spring of 1969, the controversy over the teaching of sex education had reached a point where the teachers and administrators were convinced as a result of community pressure that they no longer could cooperate in the conduct of the investigation. The key factor here was that, by state law, the schools were required to secure parental approval for the type of testing involved in the study, and most school administrators were most reluctant to allow the investigators to request such permission from the parents of each pupil to be tested.

Table 27

Participating Student IQ Scores

WINTER 1969

Experimental Condition

	Control	Experimental
$\bar{X}$	107.6	109.1
S	12.5	13.5
N	119	450

School Level

	Intermediate	High School
$\bar{X}$	115.4	100.8
S	14.0	12.5
N	311	258

Analysis of Variance Table

Source of Variation	Degrees of Freedom	Sum of Squares	Mean Squares	F
C	1	669.51	669.51	3.7
L	1	12060.92	12060.92	68.0
C X L	1	1299.06	1299.06	7.3
Error	565	100149.54	177.26	---
Total	568	114179.03		

[$F_{1,565}(.99) = 6.63$]

Since it is known that intermediate school students in the sample have higher mean IQ scores than the secondary school students, and also that there is an interaction between experimental condition and school level that might mask the main effects of the workshop's impact upon students of experimental and control group teachers, the two groups of students must be separated for further analysis. In order to complete the analysis as originally designed, however, Table 28 reports the results of analysis of variance in scores on the FLKI for the total sample of intermediate and secondary school students. These results are surprising, in view of the finding of significant differences and interactions in the analysis of variance in mean IQ scores of these comparison groups. First, the main effect of experimental condition is easily significant, as is that for school level. But it is the secondary school students in the experimental group who have excelled in spite of their handicap of a significantly lower mean IQ score. Furthermore, there is no significant interaction between experimental condition and school level in the variance in mean FLKI scores. The logical interpretation of these findings would seem to be that the main effects of the experimental treatment (their teachers' participation in the winter, 1969, Family Life Education workshop) were so great that they simply overwhelmed the differences in mean IQ scores between the comparison groups of students. This explanation of the results shown in Table 28 is plausible, even though IQ and FLKI scores in this sample reveal a statistical association of only moderate strength, having a product-moment correlation coefficient of .58.

As has been previously mentioned, the mean FLKI scores of intermediate and secondary school students were analyzed separately in order to eliminate the effects of the interaction between experimental condition and school level. Such separation made possible the addition of a third factor, sex. The results of these separate analyses of variance in IQ and FLKI mean scores are reported in Tables 29, 30, 31 and 32.

The equivalence of comparison groups of intermediate school students in the sample was tested by analysis of variance in their mean IQ scores. The results reported in Table 29 indicate that there were no significant differences between levels of the two factors, experimental condition (C) and sex (S), and that there were no interactions between these factors. These findings indicate that, prior to undergoing instruction in Family Life Education, these comparison groups of intermediate school students were initially equivalent.

The effect upon intermediate school students of instruction in family life education by teachers who had participated in the workshop held in winter, 1969, was tested by analysis of variance in the FLKI mean scores of comparison groups of students in the sample. The results of this analysis are reported in Table 30, which reveals what had been expected, i.e., that the only significant differences were those between the experimental and control group students. These findings indicate that the intermediate school students in the experimental group (that is, those who had been instructed in family life education by teachers who had participated in the workshop) achieved significantly higher mean scores on the FLKI than those in the control group-- 4.8 points or approximately one standard deviation higher.

Table 28

Effect on Student Performance

Winter 1969

Family Life Knowledge Inventory

Experimental Condition

	Control	Experimental
$\bar{X}$	29.2	32.9
S	5.1	4.4
N	119	450

School Level

	Intermediate	High School
$\bar{X}$	30.6	33.9
S	4.3	4.8
N	311	258

Analysis of Variance Table

Source of Variation	Degrees of Freedom	Sum of Squares	Mean Squares	F
C	1	2025.91	2025.91	99.1
L	1	1341.39	1341.39	65.9
C X L	1	25.42	25.42	1.2
Error	565	11507.69	20.37	---
Total	568	14900.41		

[$F_{1,565}(.99) = 6.63$]

Table 29

Intermediate Student IQ Scores

Winter 1969

Experimental Condition

	Control	Experimental
$\bar{X}$	114.3	115.5
S	12.3	14.2
N	28	283

Sex

	Male	Female
$\bar{X}$	115.1	115.7
S	15.5	12.3
N	158	153

Analysis of Variance Table

Source of Variation	Degrees of Freedom	Sum of Squares	Mean Squares	F
C	1	2.03	2.03	0.01
S	1	36.67	36.67	0.19
C X S	1	3.02	3.02	0.13
Error	307	60,208.12	196.12	----
Total	310	60,249.84		

[$F_{1,565}(.99) = 6.63$]

Table 30

Effect on Intermediate Students

Winter 1969

Family Life Knowledge Inventory

Experimental Condition

	Control	Experimental
$\bar{X}$	26.3	31.1
S	6.0	4.1
N	28	283

Sex

	Male	Female
$\bar{X}$	30.3	31.0
S	4.5	4.1
N	158	153

Analysis of Variance Table

Source of Variation	Degrees of Freedom	Sum of Squares	Mean Squares	F
C	1	541.81	541.81	29.25
S	1	20.00	20.00	1.08
C X S	1	2.15	2.15	0.15
Error	307	5686.85	18.52	---
Total	310	6250.81		

[$F_{1,307}(.99) = 6.63$]

The initial equivalence of comparison groups of secondary school students in the sample was also tested by analysis of variance in their IQ mean scores. As the results reported in Table 31 indicate, the difference in IQ mean score between experimental and control group students is significant, while the difference between males and females is not. And as earlier findings, previously reported in Table 28, indicated, the secondary school students in the control group had a significantly higher IQ mean score than those in the experimental group. Therefore, the two groups were not initially equivalent, the control group students apparently having had an advantage over the experimental group students prior to their having been instructed in family life education by teachers who had participated in the winter, 1969, workshop.

Finally, the effect upon secondary school students of instruction in family life education by teachers who had participated in the winter, 1969, workshop was tested by analysis of variance in the FLKI mean scores of comparison groups of students in the sample. Once again, the results of this analysis, which are reported in Table 32, are surprising and gratifying in view of previous findings. These results indicate that, in spite of their initial handicap, a significant deficit in IQ mean score, the secondary school students in the experimental group achieved a significantly higher FLKI mean score than those in the control group, who had the advantage of significantly higher IQ mean scores. In fact, the experimental group of secondary school students outscored the control group by an impressive 5.9 points, over 1.2 standard deviations, on the FLKI.

Figures 4, 5, and 6 graphically represent the results of the analysis of FLKI mean scores achieved by the various comparison groups of students in the sample. These graphs indicate that, whenever initial inequalities may have existed among these groups of students prior to their undergoing instruction in family life education, especially those favoring control group students, the experimental group students, at both intermediate and secondary levels, achieved significantly higher mean scores on the FLKI after having been taught by teachers who had participated in the in-service teacher training program in family life education held in the winter of 1969. These findings, together with those resulting from analysis of teachers' responses on the SKI, FLAI, and the FLEQ, constitute the necessary and sufficient evidence of the conclusion that the workshop was effective and completely successful.

Table 31

High School Student IQ Scores

Winter 1969

Experimental Condition

	Control	Experimental
$\bar{X}$	105.5	98.2
S	12.7	12.3
N	91	166

Sex

	Male	Female
$\bar{X}$	100.7	100.8
S	13.8	11.6
N	96	161

Analysis of Variance Table

Source of Variation	Degrees of Freedom	Sum of Squares	Mean Squares	F
C	1	3662.45	3662.45	23.60
S	1	101.72	101.72	0.66
C X S	1	409.07	409.07	2.64
Error	253	39271.87	155.22	----
Total	256	43445.11		

[$F_{1,253}(.99) = 6.63$]

Table 32

Effect on High School Students

Winter 1969

Family Life Knowledge Inventory

Experimental Condition

	Control	Experimental
$\bar{X}$	30.1	36.0
S	4.8	4.7
N	91	166

Sex

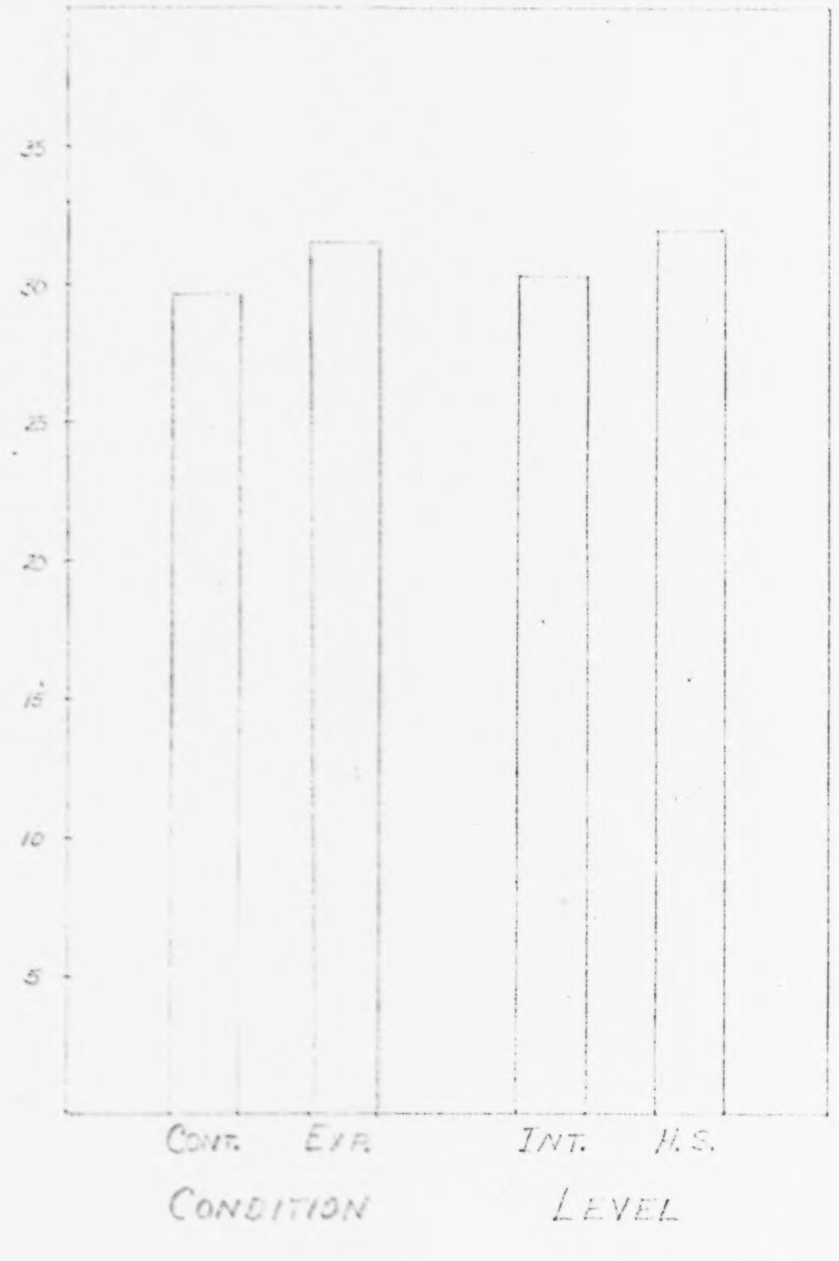
	Male	Female
$\bar{X}$	32.6	34.7
S	5.5	4.3
N	96	161

Analysis of Variance Table

Source of Variation	Degrees of Freedom	Sum of Squares	Mean Squares	F
C	1	1711.84	1711.84	76.07
S	1	17.66	17.66	0.78
C X S	1	50.09	50.09	2.23
Error	253	5693.45	22.50	----
Total	256	7473.04		

[$F_{1,253}(.99) = 6.63$]

FIGURE 4
EFFECT ON STUDENT PERFORMANCE
FLKI MEANS - SPRING 1969



GROUPED BY FACTOR

FIGURE 5
FAMILY LIFE KNOWLEDGE INVENTORY
STUDENT MEANS - SPRING 1969

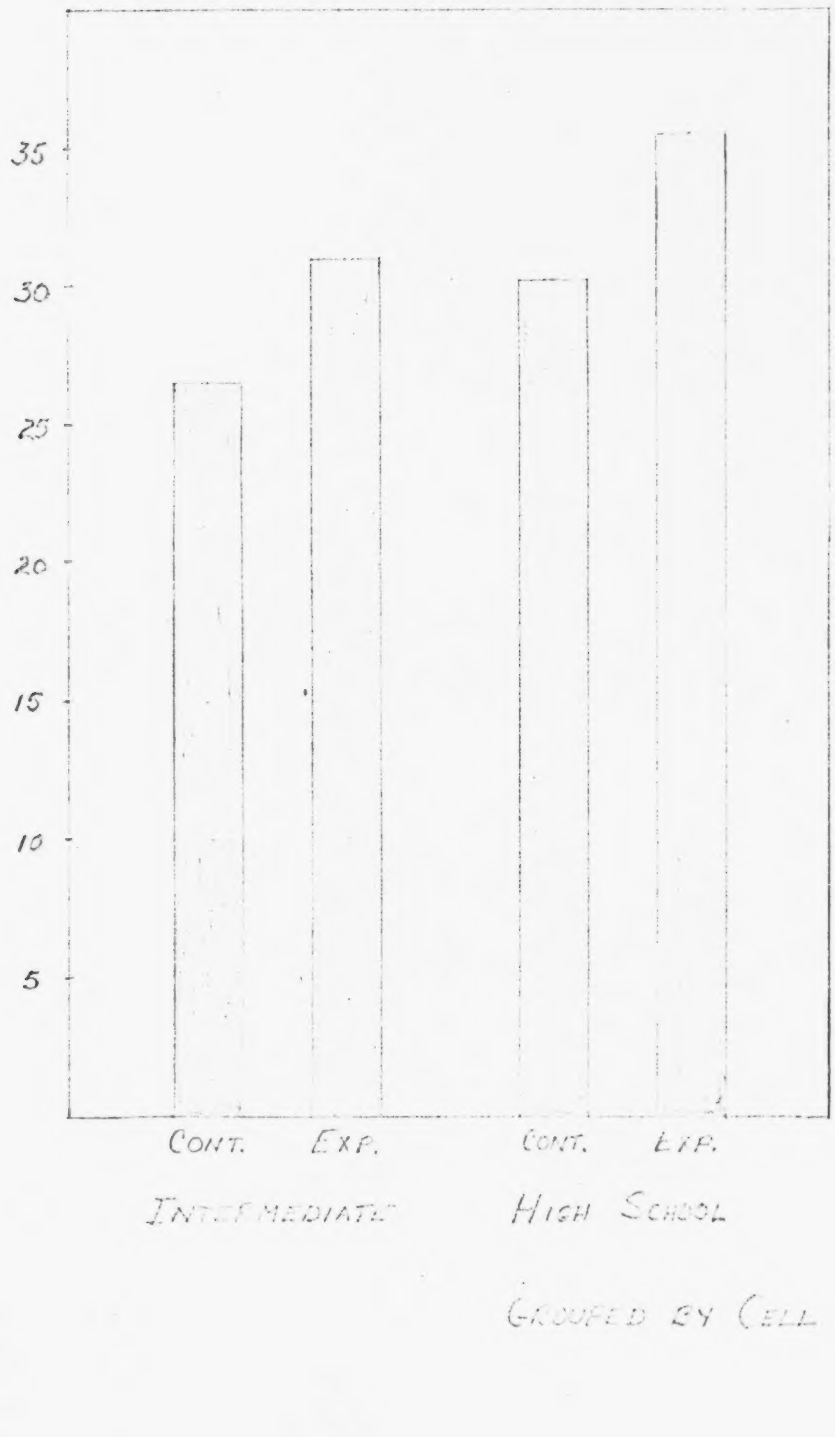
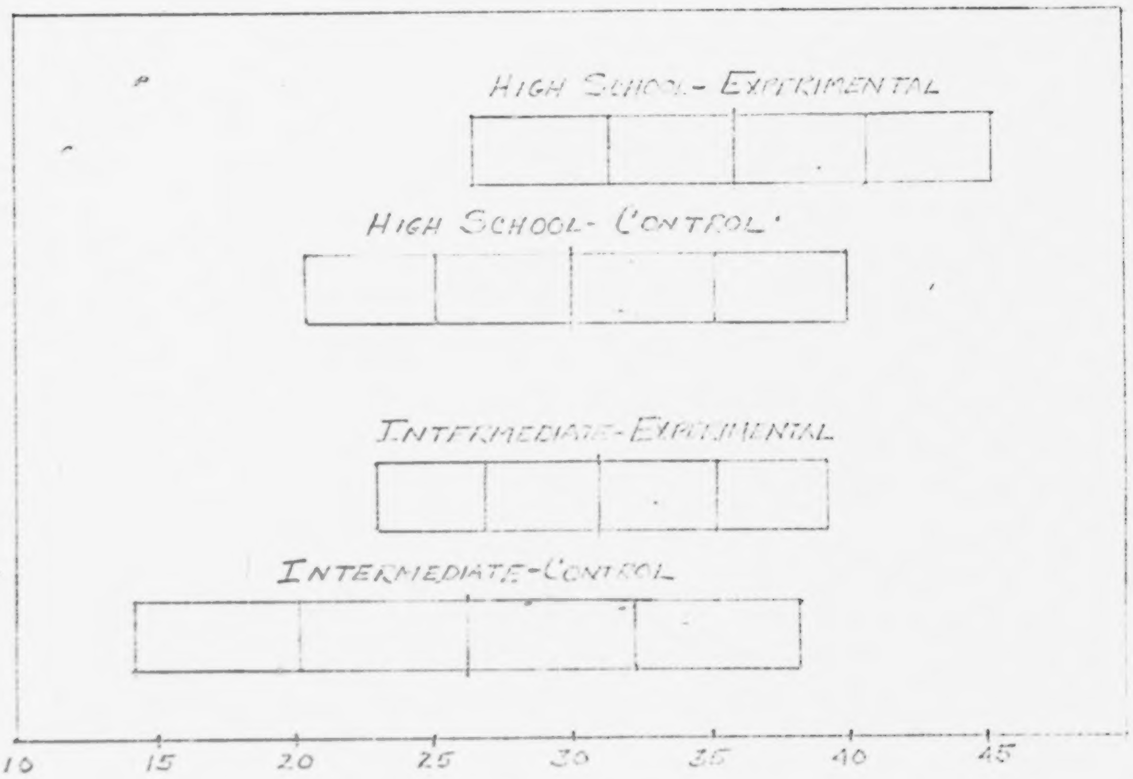


FIGURE 6

FAMILY LIFE KNOWLEDGE INVENTORY



MEAN SCORES PLUS/MINUS TWO STANDARD DEVIATIONS*

SPRING 1969

*INCLUDES 95% OF ALL SCORES

Summary of the Evaluation of the Winter, 1969, Workshop

Four major hypotheses were formulated and tested in order to evaluate the in-service teacher training program in Family Life Education conducted in the winter of 1969. In this summary, the acceptability of each of these hypotheses is argued on the basis of the evidence yielded by analysis of the data obtained on the teachers and students who served as subject for this evaluation.

The first major hypothesis states,

> There are no significant differences on any of the demographic variables assessed by the Demographic Questionnaire between and among teachers in the eight comparison groups.

Inspection of the demographic data reported in Tables 1 - 15 and the results of analysis of these data reported in Table 1A - 15A, which compare teachers in the experimental and control groups only, indicate that this hypothesis is acceptable; i.e., that there were no significant differences on demographic variables such as personal background, academic and professional training, and teaching experience between and among (1) teachers in the experimental group and teachers in the control group, (2) rural teachers and urban teachers, and (3) elementary school teachers and secondary school teachers.

The second major hypothesis states,

> There are no significant differences between comparison groups of teachers on pretest measures of (1) knowledge of family life and human sexuality, taken by the Sex Knowledge Inventory, Form X - Adults, and (2) personality characteristics, taken by the 14 scales of the Omnibus Personality Inventory, Form Fy.

Results of analysis of pretest scores on these two dependent variables, which are reported in Tables 16 and 17 and represented in Figure 1, reveal that this hypothesis is acceptable; i.e., that random assignment to experimental conditions was effective in obtaining similar groups.

On the assumption that there would be no significant differences between comparison groups on background variables--demographic characteristics, personality characteristics, and knowledge of aspects of family life and human sexuality, the third major hypothesis states,

> There are statistically significant differences between the teachers in the experimental group and teachers in the control group on post-test measures of the two dependent variables specified in the second hypothesis.

The findings yielded by analysis of subjects' post-test mean scores on the 14 scales of the OPI and on the SKI, which are reported in Tables 16 and 18 and represented in Figure 2, indicate that this hypothesis is acceptable only after substantial qualification. The multivariate analysis of variance in post-test mean scores did not result in a finding of statistically significant differences between levels of the independent variables on the post-test measures of the dependent variables, and Table 16 reports no main effects or interactions presumably resulting from the subjects' assignment to the experimental conditions or their classification by teaching assignment. The univariate analysis of variance in post-test mean scores on the OPI and the SKI, however, did result in a finding of a statistically significant difference between the experimental and control groups on (1) scale 10, Anxiety Level (AL), of the OPI and (2) on the SKI. As Table 18 and Figure 2 indicate, the subjects in the experimental group achieved significantly higher post-test scores on measures of these two variables. Most important to note, for the purposes of this evaluation, is the finding that the teachers in the experimental group gained 5.2 points over their pretest mean score on the SKI while the teachers in the control group gained only 1.4 points, and also that, on the post-test, the teachers in the experimental group scored an average of 6.9 points (1.4 standard deviations) above the teachers in the control group. The presumption here is that this significatn difference between experimental and control group teachers on post-test measures of the two dependent variables specified by the hypothesis resulted from the impact of the winter, 1969, workshop in Family Life Education upon those subject teachers in the experimental group who participated in it.

The fourth major hypothesis states,

> There are statistically significant differences between the mean scores of students of the teachers in the experimental group and those of students of the teachers in the control group on a measure of their knowledge of family life and human sexuality taken by the Family Life Knowledge Inventory, with the students of experimental group teachers achieving significantly higher scores.

Results of analysis of variance in IQ mean scores of students in four comparison groups, which are reported in Tables 27, 29, and 31, indicate that these groups were not initially equivalent; i.e., that the intermediate school students had significantly higher IQ mean scores than secondary school students, and that secondary school students in the control group had significantly higher IQ mean scores than those in the experimental group. Nevertheless, both combined and separate analyses of variance in these students' scores on the FLKI, results of which are reported in Tables 28, 30, and 32, revealed that, in spite of initial inequalities among the comparison groups, both the intermediate and secondary school students in the experimental group scored significantly higher on the FLKI than those in the control group, and that the secondary school students in the experimental group, though they were "handicapped" by lower IQ scores than control group students, not only performed significantly better than they but also better than the intermediate school students in the experimental group. That is, the experimental group of intermediate school students scored 4.8 points, approximately one standard deviation higher than the control group of intermediate school students; and the experimental group of secondary school students scored 5.9 points, approximately 1.2 standard deviations, higher than the control group of secondary school students. Again, the presumption here is that the significant differences in performance on the FLKI between experimental and control groups of students resulted from the impact of the winter, 1969, workshop in Family Life Education on the teachers of the experimental group students, which was so considerable as to completely overwhelm the initial inequalities in IQ mean scores of the four comparison groups of students. As Figures 4, 5, and 6, graphically show, the results of analysis of students' scores on the FLKI clearly support the acceptability of the fourth major hypothesis.

The degree to which the findings summarized here evidence the acceptability of the four major hypotheses is considered substantial enough to constitute the necessary and sufficient evidence required for the conclusion that this evaluation reaches; namely, that the winter, 1969, workshop in Family Life Education was effective in improving the professional competence of the teachers who took part in it and increasing the knowledge of family life and human sexuality of the students of those teachers, and that it was, therefore, completely successful.

Further demonstrations of the validity of this conclusion are contained in the findings yielded by analyses of teachers' responses to the Family Life Attitude Inventory and to the Family Life Education Q-Sort. Results of these analyses are reported in Tables 21 through 26 and represented in Figure 3; they are summarized on pages 36-37 and 53-54. These findings indicate that, by their own report and in their own view, the teachers who participated in the in-service teacher training program in family life education conducted in winter, 1969, were enabled thereby to improve their professional competence; i.e., to increase their teaching effectiveness by substantial changes (gains) in their knowledge, understandings, attitudes, and skills related to Family Life Education.

PART IV

THE SUMMER 1969 PROGRAM

THE SUMMER, 1969, WORKSHOP IN FAMILY LIFE EDUCATION

The in-service workshop in family life education conducted during the summer of 1969 was organized and operated in a manner similar to that described in the Introduction to this report. Certain changes in the contents and emphases of the training activities, primarily from cognitive to affective objectives, were made, as indicated in the program for the workshop which is appended hereto.

The Evaluation Design

The subjects for the evaluation of the summer 1969 workshop were 139 teachers, administrators and nurses from Contra Costa County schools. They were randomly assigned to experimental and control conditions as follows: 99 participants in the workshop constituted the experimental group; 40 non-participants constituted the control group.

The independent variables in the evaluation design were (1) level of school (elementary or secondary) and (2) experimental condition. The independent variable termed "type of community" (urban or rural) used in the design for evaluating previous workshops was dropped from the design for evaluating this one because it did not prove to be a significant source of variation in measures on the dependent variables.

The dependent variables in the evaluation design were (1) personality characteristics, (2) attitudes toward human sexuality and family life education, and (3) knowledge of human sexuality. Measures on these dependent variables were taken by pre- and post-testing according to the design for the evaluation of previous workshops.

Certain background variables derived from demographic data on the subjects (age, sex, marital status, years of teaching experience, etc.) were used to describe the subjects and assess the homogeniety of the experimental and control groups.

In order to assess the impact of the workshop upon the students of teachers who participated in it, the evaluation design also included an independent variable among students termed "grade level" (elementary, intermediate, secondary) and a dependent variable termed "rating of the family life education program." Since it was not possible to select a sample of students at the various grade levels for a control group, the ratings of the experimental group of students could not be subjected to planned comparison and analysis. Instead, the student evaluations of their family life education program were summarized in descriptive tables.

Hypotheses

For the purposes of evaluating the summer 1969 workshop, the following hypotheses were tested:

1. There are no significant differences between the experimental and control groups on any of the demographic variables assessed by the Demographic Questionnaire. (Differences between elementary and secondary school groups on these demographic variables were not tested for significance since none had proved significant in evaluations of previous workshops.)

2. There are no significant differences between levels of the independent variables on post-test measures of three dependent variables (1) personality characteristics measured by the Omnibus Personality Inventory; (2) attitudes toward human sexuality and family life education measured by the Family Life Attitude and Knowledge Inventory; and (3) knowledge of human sexuality measured also by the Family Life Attitude and Knowledge Inventory.

3. There are no significant differences between scores of the experimental group on the pre-test and on two successive post-test measures of two dependent variables (1) attitude toward human sexuality and family life education and (2) knowledge of human sexuality, assessed by the Family Life Attitude and Knowledge Inventory.

4. There are no significant differences between and among levels of the independent variables (1) level of school and (2) experimental condition on post-test measures of the dependent variable termed personality characteristics and measured by the Gordon Personality Inventory.

5. There are no significant differences between and among levels of the independent variables assigned to students (1) grade level and (2) experimental condition on a measure of the dependent variable termed rating of family life education program and assessed by the Student Evaluation of the Family Life Education Program. (As previously mentioned, it was not possible to test this hypothesis because a sample of students for a control group could not be selected.)

Rejection of the last four major hypotheses and acceptance of the first would have implied that the significant differences between the experimental and control groups on measures of the dependent variables are attributable to the impact of the in-service training that subjects in the experimental group had received from their participation in the summer 1969 workshop in family life education.

The Evaluation Instruments and Procedures

Most of the instruments used in taking measures on the dependent variables of the evaluation design were used in evaluating previous workshops and are described in the Introduction to this report. Included among these instruments were the Omnibus Personality Inventory, the Demographic Questionnaire, and the Family Life Education Q-Sort. In addition to these, three new instruments were used to take measures on the dependent variables: the Family Life Attitude and Knowledge Inventory, the Gordon Personality Inventory, and the Student Evaluation of the Family Life Education Program.

The Family Life Attitude and Knowledge Inventory, which was adapted from the University of Kansas Medical Center Inventory constructed by Dr. J. D. Weichmann, elicits information on a few demographic variables (age, sex, marital status, years of education beyond high school, degrees held, undergraduate major, and college or university training in family life education) and takes measures by three tests: (1) Proficiency Estimation, (2) Survey of Opinion on Sexual Issues, and (3) Test of Sexual Knowledge.

The Proficiency Estimation Sheet asks for an indication of the degree of adequacy in which the respondent feels prepared to deal with problems in particular areas of family life education, an indication of the extent to which the respondent would feel at ease in trying to help persons in several groups or types with sexual concerns and problems, and an indication of how well prepared the respondent feels in several areas of family life education. The rating scales for these three variables provide four Likert-type response categories on a continuum from "very little" to "very much". (Since the reliability of the rating scales for these three variables could not be adequately assessed, the measures taken with them were not subjected to analysis.)

The Survey of Opinion on Sexual Issues consists of 64 items, four items for each of 16 scales that assess opinion on as many controversial topics and issues in the matters of human sexuality and family life education. The 16 scales are designated, in the language of the items, as follows:

1. Masculine-Feminine Roles
2. Sex Drives
3. Masturbation
4. Marital Sexual Adjustment
5. Frigidity
6. Sex Techniques
7. Artificial Insemination
8. Abortion
9. Pre-Marital Sexual Relations
10. Extra-Marital Sexual Relations
11. Sexual Activity for the Elderly
12. Homosexuality
13. Pornogrphy
14. Sexual Offenses Against Children
15. Sex Education
16. Contraceptive Information

Each item provides a Likert-type continuum of response categories marking five degrees of intensity of agreement or disagreement; i.e., "strongly agree," "agree," "undecided," "disagree," "strongly disagree". The scoring of responses in these categories is reversed on one-half of the items; i.e., on two of the four items for each scale.

The Test of Sexual Knowledge consists of 82 items which are statements about matters of human sexuality that are asserted as facts known from the results of empirical research or as opinion firmly established on the authority of experts. Each item calls for a "true-false" response to the statement it asserts. The respondents score is the total number of correct responses.

The Gordon Personality Inventory and the Gordon Personality Profile are two separate instruments constructed to be used in conjuction as one single instrument. The combined instrument, designated here the Gordon Personality Inventory, consists of 36 forced-choice items which measure personality traits on eight scales designated and defined as follows:

1. Cautiosness (C). Individuals who are highly cautious, who consider matters very carefully before making decisions, and do not like to take chances or run risks, score high on this scale. Those who are impulsive, act on the spur of the moment, make hurried or snap decisions, enjoy taking chances, and seek excitement, score low on this Scale.

2. Original Thinking (O). High-scoring individuals like to work on difficult problems, are intellectually curious, enjoy thought-provoking questions and discussions, and like to think about new ideas. Low scoring individuals dislike working on difficult or complicated problems, do not care about acquiring knowledge, and are not interested in thought-provoking questions or discussions.

3. Personal Relations (P). High scores are made by those individuals who have great faith and trust in people, and are tolerent, patient and understanding. Low scores reflect a lack of trust or confidence in people, and a tendency to be critical of others and to become annoyed or irritated by what others do.

4. Vigor (V). High scores on this Scale characterize individuals who are vigorous and energetic, who like to work and move rapidly, and who are able to accomplish more than the average person. Low scores are associated with low vitality or energy level, a preference for setting a slow pace, and a tendency to tire easily and be below average in terms of sheer output or productivity.

5. Ascendancy (A). Those individuals who are verbally ascendant, who adopt an active role in the group, who are self-assured and assertive in relationships with others, and who tend to make independent decisions, score high on this Scale. Those who play a passive role in the group, who listen rather than talk, who lack self-confidence, who let others take the lead, and who tend to be overly dependent on others for advice, normally make low scores.

6. Responsibility (R). Individuals who are able to stick to any job assigned them, who are persevering and determined, and who can be relied on, score high on this Scale. Individuals who are unable to stick to tasks that do not interest them, and who tend to be flighty or irresponsible, usually make low scores.

7. Emotional Stability (E). High scores on this Scale are generally made by individuals who are well-balanced, emotionally stable, and relatively free from anxieties and nervous tension. Low scores are associated with excessive anxiety, hypersensitivity, nervousness, and low frustration tolerance. Generally, a very low score reflects poor emotional balance.

8. Sociability (S). High Scores are made by individuals who like to be with and work with people, and who are gregarious and sociable. Low scores reflect a lack of gregariousness, a general restriction in social contacts, and, in the extreme, an actual avoidance of social relationships.

The first four scales described above are measured by 18 items on the Gordon Personality Inventory; the second four, by 18 items on the Gordon Personality Profile. About half of the subjects tested with these instruments were randomly selected to respond to the GPI; the other half were asked to respond to the GPP. The mean score on each of the eight scales was taken to represent the total group of subjects. The justification for this procedure lies in the finding, in this and previous evaluations, that the groups are homogeneous in measures of personality characteristics assessed by the Omnibus Personality Inventory. That is, no signficant differences between and among levels of the independent variables (level of school and experimental condition) have been found in measures of personality characteristics assessed by the OPI.

The Student Evaluation of the Family Life Education Program consists of 10 items which ask the student to assess the impact of his teacher's instruction and its outcomes. Each item provides a Likert-type continuum of response categories, from "completely successful" to "unsuccessful" or from "very helpful" to "Not helpful at all". The questionnaire is thus a self-report of the student's judgment of his teacher's effectiveness in a course or a unit of family life education.

The 99 subjects who participated in the summer 1969 workshop were pretested at the beginning of the workshop with the Demographic Questionnaire, the Omnibus Personality Inventory, and the Family Life Attitude and Knowledge Inventory. At the conclusion of the workshop, they were posttested with the Gordon Personality Inventory, the Family Life Attitude and Knowledge Inventory, and the Family Life Education Q-Sort. At the end of almost one full school year (two semesters) of teaching family life education, they were again posttested, in the spring of 1970, with the Family Life Attitude and Knowledge Inventory.

The 40 subjects in the control group were tested at the beginning of the Fall Semester in September, 1969, with the Demographic Questionnaire, the Omnibus Personality Inventory, the Gordon Personality Inventory, and the Family Life Attitude and Knowledge Inventory. The assumption was made that had the subjects in the control group been pretested on the dependent variables of the evaluation design at the beginning of the workshop in the summer of 1969, their scores would not have been significantly different from those of the subjects in the experimental group who participated in the workshop. The justification for this assumption lies in the findings of the evaluations of three previous workshops, in which there were no significant differences between and among levels of the independent variables on pre-test measures of the dependent levels and the effects of random sampling were validated.

At the end of the Spring Semester, in June, 1970, 335 students of teachers who had participated in the summer 1969 workshop were asked to respond to the Student Evaluation of the Family Life Education Program. Of the total sample of students in the experimental group, 160 were in the elementary (5th and 6th) grades; 99 were in the intermediate (7th and 8th) grades; and 76 were in secondary (11th and 12th) grades. It was not possible to select a sample of students of teachers of family life education who had not participated in the workshop at any time to form a control group to compare with the experimental group of students.

The Subjects

Tables 1 through 15 following report the data obtained from responses to the Demographic Questionnaire. These data indicate the personal background, academic and professional training, and teaching experience of the subjects in the experimental and control groups. (These data are dichotomized into experimental and control groups only because further analysis of differences due to the other independent variable, level of school, did not yield significant findings in previous evaluations.)

Analysis of the Demographic Data

Tables 1 through 15 also report the results of Chi-square tests of the equality of the probability distributions of 15 demographic variables between the experimental and control groups. These tests of homogeniety, controlled at the .05 level of probability of a Type I error, reveal that none of the differences in demographic characteristics shown in Tables 1-15 are statistically significant. From this result, it follows that any differences between the experimental and control groups in post-test measures on the dependent variables are not attributable to *a priori* differences in their demographic characteristics.

Table 1. Age.

	Age Span								
	21 - 30		31 - 40		41 - 50		51 - 60+		Total
Group	#	%	#	%	#	%	#	%	#
Experimental	28	29	32	32	30	29	9	10	99
Control	11	28	15	38	11	26	3	8	40
Total	39	28	47	35	41	27	12	9	139

X^2 = .689 Not significant. X_3^2 (.95) = 7.815

Table 2. Sex.

	Male		Female		Total
Group	#	%	#	%	#
Experimental	16	40	24	60	40
Control	21	21	78	79	99
Total	37	27	102	73	139

X^2 = 2.873 Not significant. X_1^2 (.95) = 3.841

Table 3. Marital Status.

	Married		Single		Separated Divorced Widowed		Total
Group	#	%	#	%	#	%	#
Experimental	75	74	18	18	7	8	99
Control	33	82	5	13	2	5	40
Total	108	78	23	16	9	6	139

X^2 = 1.302 Not significant. X_2^2 (.95) = 5.991

Table 4. Number of Children

	None		One		Two		Three		Four+		Total
Group	#	%	#	%	#	%	#	%	#	%	#
Experimental	21	21	18	18	33	34	16	16	11	11	99
Control	7	18	9	22	14	35	6	15	4	10	40
Total	28	20	27	19	47	34	22	16	15	11	139

$X^2 = .476$ Not significant $X^2_4 (.95) = 9.488$

Table 5. Number of Years of Teaching Experience

	0 - 5		5 - 10		10 - 15		15 - 20		20+		Total
Group	#	%	#	%	#	%	#	%	#	%	#
Experimental	12	12	37	38	30	30	14	15	6	5	99
Control	6	15	8	20	12	30	10	25	4	10	40
Total	18	13	45	33	42	30	24	18	10	6	139

$X^2 = 3.642$ Not significant $X^2_4 (.95) = 9.488$

Table 6. Number of Years of District Service

	0 - 5		5 - 10		10 - 15		15 - 20		20+		Total
Group	#	%	#	%	#	%	#	%	#	%	#
Experimental	24	24	48	47	18	19	6	6	3	4	99
Control	11	28	15	38	9	21	3	8	2	5	40
Total	35	25	63	44	27	20	9	7	5	4	139

$X^2 = 2.472$ Not significant $X^2_4 (.95) = 9.488$

Table 7. Type of Undergraduate College Attended.

	Public		Private		Church		Total
	#	%	#	%	#	%	#
Experimental	71	72	21	21	7	7	99
Control	32	80	6	15	2	5	40
Total	103	74	27	19	9	7	139

X^2 = 1.667 Not significant X_2^2 (.95) = 5.991

Table 8. Number of Graduate Units Earned.

	15		30		45		60		60+		Total
Group	#	%	#	%	#	%	#	%	#	%	#
Experimental	11	11	43	44	21	21	15	15	9	9	99
Control	6	15	13	33	10	25	6	15	5	12	40
Total	17	13	56	40	31	22	21	15	14	10	139

X^2 = .607 Not significant X_4^2 (.95) = 9.488

Table 9. Type of Experience in Family Life Education.

	Course Work		Indep. Reading		Community Programs		Other		None		Total
Group	#	%	#	%	#	%	#	%	#	%	#
Experimental	21	21	37	38	2	2	24	24	15	15	99
Control	10	25	16	40	4	10	6	15	4	10	40
Total	31	22	53	39	6	5	30	21	19	13	139

X^2 = 4.876 Not signficant. X_4^2 (.95) = 9.488

Table 10. Previous In-Service Training in Family Life Education.

	Number of In-Service Workshops Attended						
	None		One		Two+		Total
Group	#	%	#	%	#	%	#
Experimental	64	65	29	28	7	7	99
Control	29	75	8	20	2	5	40
Total	93	68	37	25	9	7	139

$X^2 = 2.366$ Not significant X_2^2 (.95) = 5.991

Table 11. Religious Affiliation.

	Protestant		Catholic		Jewish		None		Total
Group	#	%	#	%	#	%	#	%	#
Experimental	55	56	28	28	7	7	9	9	99
Control	29	75	6	15	2	5	3	8	40
Total	84	59	34	25	9	7	12	9	139

$X^2 = 5.433$ Not significant. X_3^2 (.95) = 7.815

Table 12. Home Life Experience.

	Unhappy		Poor		Good		Excellent		Total
Group	#	%	#	%	#	%	#	%	#
Experimental	5	5	11	11	61	62	22	22	99
Control	4	10	5	12	23	58	8	20	40
Total	9	7	16	13	84	59	30	21	139

$X^2 = 1.334$ Not significant. X_3^2 (.95) = 7.815

Table 13. Childhood Community Setting.

	Rural		Urban		Suburban		Other		Total
Group	#	%	#	%	#	%	#	%	#
Experimental	33	33	35	36	27	27	4	4	99
Control	12	30	17	43	9	22	2	5	40
Total	45	32	52	38	36	25	6	5	139

X^2 = .864 Not significant X_3^2 (.95) = 7.815

Table 14. Childhood Socio-Economic Status.

	Upper		Middle		Lower		Total
Group	#	%	#	%	#	%	#
Experimental	9	9	75	76	15	15	99
Control	2	5	30	75	8	17	40
Total	11	7	105	76	23	17	139

X^2 = .745 Not signficant X_2^2 (.95) = 5.991

Table 15. Race.

	White		Non-White		Total
Group	#	%	#	%	#
Experimental	95	96	4	4	99
Control	39	98	1	2	40
Total	134	96	5	6	139

X^2 = 2.76 Not significant X_1^2 (.95) = 3.841

Analysis of Scores on the Omnibus Personality Inventory

In the evaluation of previous workshops, the Omnibus Personality Inventory has been used as a pre-test and post-test to measure changes in subjects' personality characteristics. Since no statistically significant differences in mean scores on any of the OPI's 14 scales were found at any of the levels of the independent variables, it was concluded that either the impact of the workshop training experience was not affecting changes in participants' personality characteristics or the OPI was not a reliable measure of such short-term changes. Consequently, in the evaluation of the summer 1969 workshop, the OPI was used only as a test of the equality of the mean scale scores of the experimental and control groups and of the homogeneity of the total population of subjects regarding this one operational definition of the dependent variable termed personality characteristics.

Multivariate analysis of variance in the subjects' mean scores on the 14 scales of the OPI was used to test for significant differences between the scores of the comparison groups. Table 16 reports the results of this test. The findings reveal that there are no significant differences in the mean scale scores of the comparison groups due either to the main effects of the independent variables (level of school and experimental condition) or to the interactions between them. This finding supports the null hypothesis that there were no statistically significant differences in personality characteristics between subjects in the experimental and control groups associated with participation in the summer 1969 workshop.

A more detailed univariate analysis of variance was performed on the subjects' mean scale scores on the OPI to test for significant differences between the experimental and control groups' personality characteristics. The results of this test are reported in Table 17. They indicate further the homogeneity of the two comparison groups on this measure of personality characteristics. No significant differences between subjects in the experimental and control groups were found in their mean scores on any of the 14 scales of the OPI.

From these and previously reported findings, it follows that any differences between the experimental and control groups found in measures of the other two dependent variables of the evaluation design (attitudes toward human sexuality and family life education and knowledge of human sexuality) cannot be attributed to differences in their demographic or personality characteristics. Such differences, it must be concluded, are attributable to the effects of the workshop training experience.

Table 16. Multivariate Analysis of Variance Test of the Equality of the Mean Scale Scores on the Omnibus Personality Inventory

Source of Variation	F - Ratioa	Probability
Level of School	.8684	.4832
Experimental Condition	1.2496	.1218
Level X Condition	.6442	.5694

Since no multivariate F-Ratio exceeds $F_{14, 110}(.95) = 1.7816$, no difference between or among the levels of the independent variables is statistically significant at or below the .05 level of probability of a Type I error.

Table 17. Univariate Analysis of Variance Test of Equality of the Mean Scale Scores on the Omnibus Personality Inventory, Compared at the Levels of the Experimental Condition

		Experimental (N = 92)		Control (N = 36)		
No.	Name	Mean	S.D.	Mean	S.D.	Univariate F - Ratio
1	TI	26.3	7.2	25.8	7.1	1.3825
2	TO	18.5	4.1	18.9	5.3	.8761
3	ES	14.7	4.3	13.8	5.6	1.2764
4	Co	15.3	5.2	14.9	5.4	.7889
5	Au	29.1	7.4	27.8	7.9	1.8648
6	RO	14.4	5.1	14.7	5.6	1.1123
7	SE	25.2	5.8	24.4	6.2	1.4825
8	IE	24.9	8.1	27.2	10.7	1.6572
9	PI	42.8	7.8	37.5	9.3	4.2125
10	AL	15.3	2.8	14.4	3.4	2,8640
11	Am	26.5	4.7	24.8	5.1	2.7468
12	PO	12.3	5.3	13.6	5.7	.9116
13	MF	26.9	4.8	24.3	4.2	2.3466
14	RB	14.2	4.6	13.8	4.1	1.7138

Since no univariate F-Ratio exceeds $F_{1, 127}(.995) = 8.1876$, no difference between experimental and control subjects on any mean scale score is statistically significant at or below the .005 level of probability of a Type I error. (The probability of error was controlled at this level for each test of each variable in order that the probability of error for the total of 14 tests on as many variables would be controlled at or near the .05 level chosen for the multivariate test.)

Analysis of Responses to the Family Life Education Q-Sort

The Family Life Education Q-Sort was administered to the subjects in the experimental group at the conclusion of their participation in the summer 1969 workshop in order to assess the impact of the training experience by inference from their evaluation of it. Table 18 reports the means and standard deviations of their responses to the 56 items of the FLEQ. For ease of interpretation, these items and item scores have been grouped and reported in five categories, as follows: (1) the value of the workshop curriculum, (2) the value of the workshop instructional procedures, (3) the value of the workshop organization and operation, (4) changes in the participants' knowledge and understandings of family life education, and (5) changes in the participants' attitudes toward family life education. Within each of these five categories, the items are arranged in order by mean score, with items having the lowest means, and therefore reflecting the highest valuations, being listed first in this order. An item with a mean score from 1.00 to 3.00 is one with which participants expressed firm-to-strong agreement. An item with a mean score from 5.00 to 7.00 is one with which they expressed firm-to-strong disagreement. And an item with a mean score between 3.00 and 5.00 is one about which they were more or less undecided or disinclined to commit themselves one way or another. Items listed first within each category are those which received the participants' most favorable responses; those listed last are those which received their least favorable or most unfavorable responses.

Table 18. Means and Standard Deviations of Responses to the Family Life Education Q-Sort

Category 1. Value of the Workshop's Curriculum

Item No.	Item Statement	Mean	S.D.
18.	The material on teacher self-image was valuable.	1.82	1.14
39.	The material on the teacher's emotional preparation was valuable.	1.96	1.26
33.	The material on the communication problems of children was valuable.	2.42	1.33
19.	The material on high-risk communication was valuable.	2.68	1.42
21.	The material on attitudinal listening was valuable.	2.74	1.47
52.	The material on teaching moral values was valuable.	2.91	1.53
31.	The material on value conflicts in family life education was valuable.	2.97	1.38
51.	The material on the psychology of the family was valuable.	3.12	1.56
38.	The material on racism in the family and school was valuable.	3.28	1.44
35.	The material on teaching methods for family life education was valuable.	3.29	1.37
56.	The material on family life education programs for community and school was valuable.	3.34	1.56
34.	The special instructional materials for family life education were valuable.	3.55	1.31
17.	The material on curriculum developments for family life education was valuable.	3.61	1.38
1.	The material on human growth and development was valuable.	3.68	1.41
2.	The material on human reporduction was valuable.	4.24	1.32

Table 18. (Continued)

Category 2. Value of the Workshop's Instructional Procedures

Item No.	Item Statement	Mean	S.D.
20.	The lectures in the project were valuable to me.	1.86	1.08
16.	The small-group sessions on self-understanding were helpful to me.	1.94	1.18
32.	Consultants who worked with teachers individually or in small groups were helpful to me.	2.12	1.42
15.	Practicing teaching skills in micro-labs was worthwhile.	2.24	1.32
25.	The role-playing that we did in the project was valuable to me.	2.42	1.70
22.	The discussion following formal presentations was valuable to me.	2.49	1.56
29.	Working together in small groups was important to me.	2.61	1.48
24.	The reading which I did as part of the project was valuable to me.	2.87	1.58
28.	Being together in one large group for activities was important to me.	4.14	1.37
27.	Doing the assigned written work was worthwhile.	4.76	1.59
30.	Working by myself was important to me.	5.25	1.19
23.	The films, records, tapes, etc. used in the project were valuable to me.	5.65	1.58
26.	The replaying of activities through video or audio tapes was valuable to me.	6.15	1.33

Table 18. (Continued)

Category 3. Value of the Workshop's Organization and Operation

Item No.	Item Statement	Mean	S.D.
36.	Those sessions when participants were absolutely frank, and even angry, were valuable.	2.21	1.36
8.	Consultants who themselves had participated in family life education offered valuable advice on teaching this subject.	2.42	1.28
9.	Developing teaching skills and techniques for teaching family life education was a valuable part of this project.	2.64	1.58
37.	The activities which "just happened" were of more value than those that were planned.	4.46	1.53
40.	Too often in the project, I was just listening or watching, rather than actively doing something.	4.67	1.63
48.	Development of curricula for family life education was not sufficiently covered in this project.	4.94	1.61
44.	Project instructors covered the material too quickly.	5.23	1.34
6.	I learned more from my fellow participants than I did from the leaders and other experts who spoke to us.	5.35	1.31
3.	The Project was too "middle class" in its philosophy and operation.	5.41	1.55
45.	The leaders put too much emphasis on dispensing information and not enough on getting us to explore our feelings.	5.85	1.21
41.	A better project would have resulted if the participants had made more of the decisions abouts its day-to-day operations.	5.88	1.42
55.	A better project would have resulted if the participants had had a bigger part in planning it.	5.96	1.22
42.	This project put too much emphasis upon the sexual problems of students.	6.08	1.15
43.	This project's format should be changed.	6.13	1.23

Table 18. (Continued)

Category 4. Changes in Participants' Knowledge and Understandings of Family Life Education

Item No.	Item Statement	Mean	S.D.
7.	This project increased my knowledge of interpersonal communication and social relations.	1.82	1.03
12.	This project increased my understanding of the importance of the emotional development of children.	1.94	1.24
4.	This project increased my knowledge of family life education and its position in the schools.	2.09	1.26
49.	I learned very little from the project about the effects of a home environment upon a student's sexual conduct.	5.16	1.28
46.	I learned very little from the project about instructional methods and materials for family life education.	5.45	1.40
53.	This project did little to increase my awareness of the resource materials available for family life education.	5.67	1.55
47.	This project contributed little to my awareness of the problems that confront the youthof today.	5.92	1.35

Table 18. (Continued)

Category 5. Changes in the Participants' Attitudes Toward Family Life Education

Item No.	Item Statement	Mean	S.D.
5.	This project convinced me that students should have more knowledge about family relations than they obtain in the home.	1.81	1.09
50.	This project made me more aware of the moral and ethical aspects of teaching family life education.	1.94	1.16
10.	This project has led me to feel that students need more individual attention on problems concerning sexual maturity.	2.18	1.31
11.	I am more self-confident in teaching family life education as a result of this project.	2.24	1.51
54.	As a result of this project I am better qualified to teach family life education that I was before.	2.46	1.78
13.	This project convinced me that sutdents should have a biological and psychological understanding of themselves.	2.55	1.27
14.	As a result of this project I intend to become more familiar with my students' family life background and attitudes regarding sexual behavior.	3.26	1.68

Examination of Table 18 reveals that the participants in the summer 1969 workshop, in assessing it curriculum, judged most valuable those materials dealing with the teacher's self-image and emotional preparation for teaching family life education. They also valued highly the materials on the communication problems of children, and in connection with these, the materials on high-risk communication and attitudinal listening.

In assessing the workshop's instructional procedures, the participants valued most highly the lectures and the small-group sessions on self-understanding. They found especially helpful the consultants who worked with teaching individually or in small groups. They valued highly the practicing of teaching skills in micro-labs and the role-playing that they did. And they found the discussions following formal presentations to be of value to them.

In assessing the workshop's organization and operation, the participants were most appreciative of those sessions of the workshop in which they and their colleagues were absolutely frank, and even angry, in offering their views regarding family life education. They valued very highly the contributions of consultants who themselves had participated in family life education and so were able to offer helpful advice. They found the emphasis upon developing particular teaching skills and techniques for family life education to be a wrothwhile part of the workshop activities. Furthermore, they declined all of the opportunities that the Q-sort afforded them to register critical views of its organization and operation; they tended to disagree strongly with negative statements describing the workshop as faulty in its planning and conduct.

Table 18 further indicates that the participants in the summer 1969 workshop felt that they had been markedly influenced by their experience. They note, in particular, increases in their knowledge about inter-personal communication and social relations and in their understanding of the importance of the emotional development of children. They also acknowledge that the workshop increased their knowledge of family life education and its position in the schools. They felt that they had gained substantial knowledge about the problems that confront the youth of today and about instructional methods and materials and other resources available for family life education in the schools.

In assessing the learning outcomes of their participation in the workshop, the participants note also their achievement of its affective, as well as cognitive, objectives. They acknowledge changes in their attitudes toward family life education, particularly in their conviction that students need more knowledge about family relations than they can obtain in the home, as well as more individual attention to their problems concerning sexual maturity. They remark also their heightened awareness of the moral and ethical aspects of teaching family life education in the schools. They express greater self-confidence in themselves and their qualifications to teach family life education as a result of their participation in the workshop.

From the simple comparison of item mean scores in five categories of the FLEQ presented in Table 18, it may be concluded that the participants in the summer 1969 workshop regarded its objectives, procedures, materials and outcomes with high favor and judged it an effective and beneficial in-service training experience.

Although Table 18 reveals substantial information about the value that participants in the workshop set upon their experience, further information can be gained from the participants responses to the FLEQ by analyzing patterns or groupings of individual items in clusters. Therefore, the FLEQ data were subjected to cluster analysis and the results of this analysis are reported in Table 19. For the purposes of interpretation, the six clusters found in the participants' responses to the FLEQ have been designated by the following descriptive terms, based upon the language and logic of the items which define each cluster:

Cluster 1 - Value of Workshop Activities and Materials Concerned with Interpersonal Communication and Relations.

Cluster 2 - Value of Workshop Activities and Materials Concerned with the Teacher of Family Life Education

Cluster 3 - Value of Workshop Activities and Materials Concerned with the Curriculum and Instruction Resources in Family Life Education.

Cluster 4 - Value of Workshop Activities and Materials Concerned with the Role of the School and the Teacher in Family Life Education.

Cluster 5 - Value of Workshop Activities and Materials Concerned with the Goals and Objectives of Family Life Education.

Cluster 6 - Value of General Features of the Workshop's Program and Procedures.

The particular meanings of a high score and a low score on each of these clusters are explained in Table 19, in which the clusters are defined and described. In general, however, a high score on any cluster indicates agreement with those defining item statements (identified by a "D" following the item number) which have positive factor coefficients and disagreement with those which have negative factor coefficients. For cluster scores for an individual subject are simply weighted sums of his scores on the items that define each cluster, the weights being the factor coefficients. The reliability of a score on each cluster, based on the reliability of the defining items in the cluster, is also indicated for each cluster described in Table 19.

Table 19. Clusters Found Among Participants' Responses to the Family Life Education Q-Sort

Cluster 1. Value of Workshop Activities and Materials Concerned with Interpersonal Communications and Relations.

Item No.	Item Statement	Factor Coeff.
33(D)	The material on the communication problems of children was valuable.	.81
19(D)	The material on high-risk communication was valuable.	.78
21(D)	The material on attitudinal listening was valuable.	.75
7(D)	This project increased my knowledge about interpersonal communication and social relations.	.67
36	Those sessions when participants were absolutely frank, and even angry, were valuable.	.61
32	Consultants who worked with teachers individually or in small groups were helpful.	.57
45	The leaders put too much emphasis on dispensing information and not enough on getting us to explore our feelings.	-.48

High scorers on this dimension judged the activities and materials concerned with interpersonal communications and relations to have been valuable. Low scorers were less appreciative of these activities and materials and critical of the emphasis on informational objectives.

Reliability coefficient (D) = .87

Table 19 (Continued)

Cluster 2. Value of the Workshop Activities and Materials Concerned with the Teacher of Family Life Education.

Item No.	Item Statement	Factor Coeff.
16(D)	The small-group sessions on self-understanding were helpful to me.	.79
39(D)	The material on the teacher's emotional preparation was valuable.	.72
18(D)	The material on teacher self-image was valuable.	.67
25	The role playing which we did in the project was valuable.	.62
11	I am more self-confident in teaching family life education as a result of this project.	.54

High scorers on this dimension judged the activities and materials concerned with the teacher's self-understanding and self-image to have been valuable and to have had a beneficial effect on their self-confidence. Low scorers on this dimension set a lesser value on these activities and materials and were skeptical about the beneficial outcome of them.

Reliability coefficient (D) = .82

Table 19. (Continued)

Cluster 3. Value of Workshop Activities and Materials Concerned with the Curriculum and Instructional Resources for Family Life Education.

Item No.	Item Statement	Factor Coeff.
15(D)	Practicing teaching skills in micro-labs was worthwhile.	.76
35(D)	The material on teaching methods for family life education was valuable.	.71
9	Developing teaching skills and techniques for teaching family life education was a major part of this project.	.63
46	I learned very little from the project about instructional methods and materials for family life education.	-.56
53	This project did little to increase my awareness of the resource materials available for family life education.	-.51
34(D)	The special instructional materials for family life education were valuable.	.46
17	The material on curriculum developments for family life education was valuable.	.43

High scorers on this dimension set a high value on the workshop activities and materials concerned with curriculum and instructional resources for family life education; they acknowledged increased awareness of these resources as a result of their participation. Low scorers on this diemnsion did not value these activities and materials so highly and felt they learned little about instructional methods and materils available for teaching family life education.

Reliability coefficient (D) = .78

Table 19. (Continued)

Cluster 4. Value of Workshop Activities and Materials Concerned with the Role of the School and the Teacher in Family LIfe Education.

Item No.	Item Statement	Factor Coeff.
5(D)	This project convinced me that students should have more knowledge about family relations than is obtained in the home.	.73
10(D)	This project has led me to feel that students need more individual attention on problems concerning sexual maturity.	.69
47	This project contributed little to my awareness of the problems that confront the youth of today.	-.57
4(D)	This project increased my knowledge of family life education and its position in the schools.	.53
50	This project made me more aware of the moral and ethical aspects of teaching family life educaton.	.47
56	The material on family life education programs for community and school was valuable.	.44

High scorers on this dimension felt that the school and the teacher have a definite pedagogical, moral and ethical responsibility to offer instruction and guidance in family life education. Low scorers were skeptical about the need for family life education in the schools and doubted the value of such programs. They did not feel that the workshop contributed to their awareness of the problems that confront the youth of today.

Reliability coefficient (D) = .74

Table 19. (Continued)

Cluster 5. Value of Workshop Activities and Materials Concerned with the Goals and Objectives of Family Life Education

Item No.	Item Statement	Factor Coeff.
52(D)	The material on teaching moral values was valuable.	.75
31(D)	The material on value conflicts in family life education was valuable.	.71
20	The lectures in the project were valuable to me.	.66
12(D)	This project increased my understanding of the importance of the emotional development of children.	.62
8	Consultants who themselves had participated in family life education offered valuable advice on teaching this subject.	.57
13	This project convinced me that students should have a biological and psychological self-understanding.	.54
48	Development of curricula for family life education was not sufficiently covered in this project.	-.48
42	This project put too much emphasis upon the sexual problems of students.	-.43

High scorers on this dimension judged that materials on the affective goals of family life education had increased their understanding of the importance of the emotional development of children. Low scorers on this dimension felt that the project put too much emphasis on sexual and emotional problems of youth and did not adequately cover curriculum development for family life education.

Reliability coefficient (D) = .71

Table 19. (Continued)

Cluster 6 . Value of General Features of the Workshop's Program

Item No.	Item Statement	Factor Coeff.
43(D)	This project's format should be changed.	.68
37(D)	The activities which "just happened" were of more value than those that were planned.	.63
40	Too often in the project I was just listening or watching, rather than actively doing something.	.59
6	I learned more from my fellow participants than I did from the leaders and other experts who spoke to us.	.51
3	The project was too "middle-class" in its philosophy and operation.	.47
41	As a result of this project I am better qualified to teach family life education than I was before.	-.41

High scorers on this dimension were critical of the workshop's program and did not feel it offered them much to improve their qualifications to teach family life education. Low scorers disagreed with such negative criticism of the workshop and felt that it had helped them enhance their qualifications to teach family life education.

Reliability coefficient (D) = .64

Analysis of Scores on the Gordon Personality Inventory

In order to assess the impact of the summer 1969 workshop upon certain personality traits associated with individual behavior in groups, the Gordon Personality Inventory (GPI) was administered to the experimental group in August, at the conclusion of the workshop, and to the control group in September, at the beginning of the Fall Semester. In analyzing and interpreting the results of this testing, the assumption was made that, had these same subjects been pre-tested on these personality traits, no significant differences would have been found among the mean scale scores of the comparison groups. The justification for this assumption lay in the findings that resulted from analysis of scores on the Omnibus Personality Inventory (OPI); i.e., there were no significant differences between the comparison groups on any of the OPI's 14 scales, from which it was concluded that the experimental and control group subjects were homogeneous on this particular measure of personality characteristics.

Multivariate analysis of variance in mean scores on the eight scales of the GPI was used to test for significant differences in personality traits between the comparison groups. Table 20 reports the results of this test. It indicates that no significant differences among mean scale scores were found to be due to levels of the first independent variable, elementary and secondary school subjects. It also indicates, however, that there are significant differences on one or more scales of the GPI between the mean scores of the experimental and control groups. Finally, it indicates that there are no significant differences in GPI scores due to interactions between and among levels of the two independent variables.

A more detailed univariate analysis of variance was performed on the subjects' mean scale scores on the GPI in order to test for significant differences between experimental and control group subjects on single personality traits. The results of this analysis are reported in Table 21. They indicate that there are significant differences between subjects in the two comprison groups on measures of only two personality traits, those termed "Personal Relations" (P) and "Ascendancy" (A). Subjects in the experimental group, who achieved the higher mean scores on these two scales, thus demonstrated that they are "more tolerant, patient and understanding and have greater faith and trust in people" and also that they are "more verbally ascendant, adopt more active roles in a group, are more self-assured and assertive in relationships with others, and tend to make more independent judgments" than subjects in the control group.

If the assumption is made that no significant differences in these personality traits would have been found by pre-testing experimental and control group subjects, and if this assumption is valid, then it may be concluded from analysis and interpretation of their post-test scores on the GPI that the summer 1969 workshop in family life education influenced the development of two personality traits, personal relations and ascendancy, in the experimental group subjects who participated in it. This conclusion accords well with the intent and objectives of several of the small-group training activities conducted in the workshop, which would thus appear to have been successfully achieved.

Table 20. Multivariate Analysis of Variance Test of Equality of Mean Scale Scores on the Gordon Personality Inventory

Source of Variation	F - Ratio	Probability
Level of School	.7624	.5286
Experimental Condition	2.0847	.0424
Level X Condition	1.5645	.1480

A multivariate F-Ratio equal to or exceeding $F_{8,122}(.95) = 2.0254$ is significant at or below the .05 level of probability of a Type I error.

Table 21. Univariate Analysis of Variance Test of Equality of Mean Scale Scores on the Gordon Personality Inventory Compared Between Experimental and Control Groups

Scale		Experimental		Control		
No.	Name	Mean	S.D.	Mean	S.D.	F-Ratio
1	(C)	22.83	6.51	22.96	6.64	.7624
2	(O)	25.56	5.84	23.85	6.10	3.1536
3	(P)	26.85	6.03	23.92	6.22	8.4117
4	(V)	23.32	6.18	24.76	5.94	2.0642
5	(A)	26.24	5.75	23.48	6.05	7.9855
6	(R)	24.50	5.24	25.27	5.36	1.6667
7	(E)	23.48	6.32	24.55	6.19	1.9846
8	(S)	25.36	6.12	23.98	6.42	4.1298

A univariate F-Ratio equal to or exceeding $F_{1,133}(.995) = 7.8765$ is significant at or below the .005 level of probability of a Type I error.

Analysis of Scores on the Family Life Attitude and Knowledge Inventory

In order to assess the impact of the summer 1969 workshop upon the participants' attitudes toward and knowledge of human sexuality and family life education, the Family Life Attitude and Knowledge Inventory (FLAKI) was administered to the subjects in the experimental group as a pre-test on the first day of the workshop, as a post-test on the last day of the workshop, and as a follow-up post-test in May, 1970, after they had taught a course or unit of family life education for two semesters. The results of this testing are reported in Table 22, which indicates, for each test administration, the experimental group's mean score and standard deviation on the sixteen scales of Part II and on the test in Part III of the FLAKI. (The sixteen scales of Part II measure various attitudes toward matters of human sexuality and family life education that are controversial in American life and thought; the test in Part III measures knowledge of fact and expert scientific opinion in these matters.)

In order to take account of intercorrelations between and among the seventeen variables on which the FLAKI takes measures, multivariate and step-down univariate analysis of variance was performed to test the null hypotheses of equality of mean scores. The results of these analyses are indicated in Table 22. Examination of this table reveals that, between the pre-test and the first post-test with the FLAKI, the subjects in the experimental group achieved statistically significant gains in their mean scores on six of the sixteen scales of Part II; i.e., on scales numbered and designated (1) Masculine-Feminine Roles, (2) Sex Drives, (3) Masturbation, (12) Homosexuality, (15) Sex Education, and (16) Contraceptive Information; and also in their mean score on the test in Part III. Further examination of this table reveals that, between the first and second post-tests with the FLAKI, the subjects in the experimental group did not achieve statistically significant gains in their mean scores on any of the sixteen scales in Part II, but did achieve a statistically significant gain in their mean score on the test in Part III.

These findings can be interpreted to mean that their participation in the summer 1969 workshop had the effect of changing significantly certain of the attitudes toward human sexuality and family life education held by the subjects in the experimental group while, at the same time, increasing their knowledge of these matters. Furthermore, their experience of teaching a course or unit of family life education for two semesters did not significantly change their attitudes toward, though it did increase their knowledge of, these matters. To state this interpretation in another way, it can be said that the subjects in the experimental group responded to the workshop training activities by liberalizing their attitudes toward and also increasing their knowledge of certain matters of human sexuality and family life education; and that they responded to their experience of teaching a course or unit of family life education for two semesters by maintaining their liberalized attitudes while increasing further their knowledge, perhaps through the necessity of preparing materials for instruction in particular matters of fact and expert scientific opinion regarding human sexuality and family life education.

Table 22. Mean Scores and Standard Deviations of Experimental Group Subjects on Successive Administrations of the Family Life Attitude and Knowledge Inventory, Parts II and III, in Summer, 1969, and Spring, 1970.

Scale		Pre-Test (N = 97)		First Post-Test (N = 91)		Second Post-Test (N = 83)	
No.	Name	Mean	S.D.	Mean	S.D.	Mean	S.D.
1	MFR	13.86	3.92	15.95*	3.14	16.21	3.04
2	SD	14.12	3.42	16.46*	3.27	16.63	3.16
3	Mas	13.44	4.16	15.76*	3.42	16.08	3.23
4	MSA	15.34	3.33	15.81	3.18	15.87	3.21
5	Frig	15.08	3.41	15.62	3.06	15.92	3.11
6	ST	14.84	3.86	15.26	3.45	15.40	3.34
7	AI	14.72	3.66	14.97	3.54	14.66	3.72
8	Ab	15.75	3.08	16.14	2.84	16.75	2.68
9	PSR	13.16	4.22	13.52	3.88	13.64	3.75
10	ESR	13.48	3.91	13.67	3.84	13.53	4.18
11	SAE	16.20	2.72	16.34	2.65	16.22	2.79
12	Hom	14.18	3.82	16.24*	2.87	17.48	2.92
13	Porn	13.02	3.29	13.11	3.58	13.23	3.71
14	SOAC	13.46	4.14	13.83	3.76	14.09	3.56
15	SE	15.21	3.36	17.84*	2.55	18.22	2.63
16	GI	15.50	3.44	17.67*	2.62	17.98	2.77
17	SK	65.90	8.25	72.64*	6.46	75.86*	6.12

*These gains in mean score over previous test administration were found, by multivariate and step-down univariate analysis of variance tests of equality of mean score vectors, to be statistically significant at or below the .05 level of probability of a Type I error.

In the multivariate analysis of variance tests of equality of mean score vectors achieved in each of the three administrations of the FLAKI to the subjects in the experimental group, three sources of variation were analyzed: (1) level of school (elementary or secondary), (2) experimental condition (previous workshop training in family life education or no previous workshop training); and (3) interaction between and among levels of the first two factors. The results of these analyses are reported in Tables 23, 24 and 25. Examination of these three tables reveals that no signficant differences in mean score vectors were found between or among any levels of any factors (potential sources of variation) when tests of the null hypotheses of equality of mean score vectors were controlled at the .05 level of probability of a Type I error. Of particular interest is the finding that there were no significant differences between the mean score vectors of participants who had taken part in the training activities of previous workshops in family life education and those of participants who had not.

These findings can be interpreted to mean that all of the subjects in the experimental group, regardless of the level of school at which they taught or the fact of their having or not having previous workshop training in family life education, began their participation in the summer 1969 workshop with equivalent mean score vectors on the FLAKI, which is a measure of their attitudes toward and knowledge of matters of human sexuality and family life education. Furthermore, they demonstrated a similar equivalence at the conclusion of their participation in the workshop and once again upon completion of a school year of teaching a course or unit in family life education. From this interpretation it would follow that the impact of the summer 1969 workshop upon subjects in the experimental group was not significantly differentiated by differences in their teaching levels or in their previous workshop training in family life education.

Since no significant differences among mean score vectors were found by multivariate analysis of variance tests of equality performed on mean scores from each of the three administrations of the FLAKI, no further univariate analysis of variance was performed to test for the equality of mean scores on individual scales of this instrument.

Table 23. Multivariate Analysis of Variance Test of Equality of Mean Scores on the Pre-Test of the Family Life Attitude and Knowledge Inventory Administered to the Experimental Group (N = 97)

Source of Variation	F-Ratio	Probability Less Than
Level of School	.8755	.4262
Experimental Condition	1.6846	.1685
Level X Condition	1.1108	.2476

Since no multivariate F-ratio exceed $F_{17,79}$ (.95) = 1.8046, no differences in mean score vectors between or among any levels of the sources of variation are significant at or below the .05 level of probability of a Type I error.

Table 24. Multivariate Analysis of Variance Test of Equality of Mean Scores on the First Post-Test of the Family Life Attitude and Knowledge Inventory Administered to the Experimental Group (N = 91)

Source of Variation	F-Ratio	Probability Less Than
Level of School	.5466	.6895
Experimental Condition	1.2245	.2076
Level X Condition	.8218	.4682

Since no multivariate F-ratio exceeds $F_{17,73}$ (.95) = 1.8125, no differences in mean score vectors between or among any levels of the sources of variation are significant at or below the .05 level of probability of a Type I error.

Table 25. Multivariate Analysis of Variance Test of Equality of Mean Scores on the Second Post-Test of the Family Life Attitude and Knowledge Inventory Administered to the Experimental Group (N = 83)

Source of Variation	F-Ratio	Probability Less Than
Level of School	.4854	.7285
Experimental Condition	.8266	.3624
Level X Condition	.7128	.4067

Since no multivariate F-ratio exceeds $F_{17,65}$ (.95) = 1.8258, no differences in mean score vectors between or among any levels of the sources of variation are significant at or below the .05 level of probability of a Type I error.

For the purposes of comparison, the FLAKI was administered to the subjects in the control group at the beginning of the fall semester in September, 1969. In analyzing and interpreting the results of this testing, and particularly in comparing the mean scores of the experimental and control groups, the assumption was made that, had the subjects in the control group been pre-tested on the FLAKI, their mean score vectors would not have differed significantly from those of the subjects in the experimental group. The justification for this assumption lies in the findings of homogeniety of the distribution of scores on the demographic and personality variables measured on the subjects in the two comparison groups. (See Tables 1 - 15, 16 and 17, and 20 and 21, and also the interpretations of these tables.) Therefore, the control group's mean score vector was compared with the experimental group's mean score vector on the first post-test of the FLAKI in August, 1969.

Multivariate and step-down univariate analyses of variance were performed to test the null hypotheses of equality of mean score vectors of the experimental and control groups. The results of these tests are reported in Tables 26 and 27. Examination of Table 26 reveals that, although no significant difference between mean score vectors was found to be due to the difference between levels of school at which the subjects taught (elementary or secondary), a significant difference between mean score vectors was found to be due to the difference in experimental condition (participation or non-participation in the summer 1969 workshop in family life education). No significant difference between mean score vectors was found to be due to interaction between or among levels of the two factors, or potential sources of variation.

Step-down univariate analysis of variance was performed to test the null hypotheses of equality of the experimental and control groups' mean scores on individual scales of the FLAKI. Examination of the results of these tests, reported in Table 27, reveals that the subjects in the experimental group achieved significantly higher mean scores on certain scales than did subjects in the control group; namely on the scales of Part II numbered and designated (1) Masculine-Feminine Roles, (2) Sex Drives, (15) Sex Education, and (16) Contraceptive Information, and also on the test of sex knowledge in Part III.

These findings can be interpreted as indicating that participation in the summer 1969 workshop's training activities had the effect of changing experimental-group subjects' attitudes toward masculine-feminine roles, sex drives, sex education, and contraceptive information, causing them to take more liberal views of these matters than they might have if they had not participated in these activities. Furthermore, their participation in the workshop also caused them to increase their knowledge of matters of fact and expert scientific opinion regarding human sexuality and family life education significantly more than they might have had they not been enrolled in the workshop. From this interpretation it follows that the summer 1969 workshop had a significant influence upon certain attitudes toward and specific knowledge of human sexuality and family life education demonstrated by its participants in their responses to the FLAKI.

Table 26. Multivariate Analysis of Variance Test of Equality of Mean Scores on the Post-Test of the Family Life Attitude and Knowledge Inventory Administered to Experimental and Control Groups (N = 131)

Sources of Variation	F-Ratio	Probability Less Than
Level of School (Elementary or Secondary)	.9267	.3878
Experimental Condition (Participant or Non-Participant)	2.1642	.0356
Level X Condition	1.4381	.1212

Since only the multivariate F-ratio of variation due to experimental condition (participation or non-participation in the summer 1969 workshop in family life education) exceeds $F_{17,131}$ (.95) = 1.7633, only this difference between and among mean score vectors of the experimental and control groups is statistically significant at or below the .05 level of probability of a Type I error.

Table 27. Mean Scores and Standard Deviations of Experimental and Control Groups on the Post-Test of the Family Life Attitude and Knowledge Inventory (Parts II and III), August-September, 1969 (N = 131)

Scale		Experimental Group (N = 91)		Control Group (N = 40)	
No.	Name	Mean	S.D.	Mean	S.D.
* 1	MFR	15.95	3.14	13.58	3.71
* 2	SD	16.46	3.27	13.83	3.63
3	Mas	15.76	3.42	14.32	3.84
4	MSA	15.81	3.18	15.57	3.97
5	Frig	15.62	3.06	14.77	3.22
6	ST	15.26	3.45	14.64	4.28
7	AI	14.97	3.54	13.86	4.16
8	Ab	16.14	2.84	15.22	3.34
9	PSR	13.52	3.88	13.94	4.23
10	ESR	13.67	3.84	13.25	4.19
11	SAE	16.34	2.65	15.63	3.21
12	Hom	16.24	2.87	14.82	4.22
13	Porn	13.11	3.58	13.48	3.45
14	SOAC	13.83	3.76	14.24	3.39
* 15	SE	17.84	2.55	15.18	3.04
* 16	CI	17.67	2.62	14.66	3.30
* 17	SK	72.64	6.46	64.55	7.25

* The differences in mean scores reported for the experimental and control groups on these variables were found, by step-down univariate analysis of variance tests of the equality of mean score vectors, to be statistically significant at or below the .05 level of probability of a Type I error.

In the original design for the evaluation of the summer 1969 workshop, It was planned to assess the impact of the workshops training activities upon the students of teachers who participated in them by administering the Family Life Knowledge Inventory to a randomly selected sample of classes of students of teachers in both the experimental and control groups and to analyze and interpret the results of this testing as in the evaluation of the previous (winter 1969) workshop. It was not possible for the project director and the evaluation team to carry out this original intent, however, so an alternate plan was formulated. According to this alternate plan, a new, especially constructed instrument, the Student Evaluation of the Family Life Education Program (SEFLEP), was to have been administered to a randomly selected sample of classes of students of teachers in both the experimental and control groups. And in June, 1970, this instrument, the SEFLEP, was administered to a sample of classes of teachers in the experimental group. At that time, however, it was not possible to administer the instrument to a sample of classes of teachers in the control group. For this reason, the responses to the SEFLEP made by students of teachers in the experimental group have not been subjected to the planned analysis and comparison; instead, they have been summarized in Table 28.

The students' responses to the SEFLEP were scored on a scale of numbers from one to four that were assigned to the four defined points in the continuum of Likert-type response categories provided for each item in the instrument. For items one through five, the four response categories on the continuum were defined and evaluated as follows: a) "completely successful" (4 points), b) "somewhat successful" (3 points), c) "not very successful" (2 points), and d) "unsuccessful" (1 point). For items six through ten, the four response categories on the continuum were defined and evaluated as follows: a) "very helpful" (4 points), b) "somewhat helpful" (3 points), c) "not very helpful" (2 points), and d) "not helpful at all" (1 point). Table 28 reports the mean responses to each of the ten items of the SEFLEP for each of the three grade levels into which the students of the experimental group teachers were divided: elementary (grades 5 and 6), intermediate (grades 7 and 8), and secondary (grades 11 and 12).

Examination of Table 28 reveals that, in general, the students of teachers in the experimental group valued their experience in a course or unit of family life education quite highly. The average of the mean responses to each item of the SEFLEP for each of the three grade levels is slightly above three points, indicating that the students of experimental group teachers at all levels rated their course or unit in family life education as a little more than "somewhat successful" or "somewhat helpful" in every regard considered overall. At all three grade levels, the students rated their teacher's instructional methods and materials a little more favorably than they rated the specified learning outsomes of their participation in the course or unit of family life education. At each grade level, however, there are variations in the order in which items in these two classes were ranked by mean response. In general, these variations appear to be a function of the age and disposition of the students, rather than of the effectivepess of the teachers or the helpfulness of their instruction. For example, students in the elementary and intermediate grades rate very highly their teacher's success in demonstrating knowledge of the various topics of family life education and in selecting interesting materials and methods of instruction; whereas students in high school rate more highly their teacher's success in giving direction and guidance for class discussion of topics in family life education and in handling potentially embarrassing topics with tact and without nervousness. Students in the elementary grades rated their course or unit of family life education very helpful in making it easier for them to discuss personal problems and family life topics with their parents and other adults; whereas students in the intermediate and secondary grades rated their course or unit as not very helpful in attaining this outcome. And students in the intermediate and secondary grades rated their course or unit very helpful in improving their understanding of the opposite sex and the ways in which they grow, develop and function; whereas students in the elementary grades rated their course or unit as not very helpful in acquiring this understanding.

Within the limits of the reliability and validity with which a questionnaire like the SEFLEP can assess the impact of the summer 1969 workshop upon the students of teachers who participated in it, the students' responses to this instrument indicate that the workshop was generally successful in helping the teachers in the experimental group to develop professional attitudes, understandings and skills that enabled them to provide interesting and effective instruction in family life education for their students.

Table 28. Mean Responses of Students of Experimental Group Teachers to the Student Evaluation of the Family Life Education Program (N = 335)

Item No.	Item Statement	Grade Level 5-6 (N=160)	 7-8 (N=99)	 11-12 (N=76)
1	How successful was your teacher in demonstrating knowledge of the various topics in your unit or course?	3.44	3.66	2.87
2	How successful was your teacher in selecting interesting materials and using effective methods for teaching your unit or course?	3.72	3.53	2.91
3	How successful was your teacher in handling possibly embarrassing topics without nervousness and with tact?	2.67	2.71	3.38
4	How successful was your teacher in helping members of your class to talk openly about possibly embarrassing topics?	2.86	2.54	3.15
5	How successful was your teacher in giving direction and guidance for class discussion of Family Life subjects?	3.25	3.22	3.53
6	How helpful was your unit or course in enabling you to understand yourself, your friends, your family, and other adults?	3.28	3.41	3.45
7	How helpful was your unit or course in clearing up any cnfusion you may have had about family life subjects before you began to study them in school?	2.70	2.98	2.74
8	How helpful was your unit or course in improving your understanding of the opposite sex and the ways in which they grow, develop, and function?	2.92	3.20	3.67
9	How helpful was your unit or course in enabling you to overcome any embarrassment you may have felt whenever films, lectures, or discussions on human reproduction and sexual development were presented?	3.33	2.62	3.26
10	How helpful was your unit or course in making it easier for you to discuss personal problems and family life topics with your parents and other adults?	3.46	2.85	2.32

Summary of Evaluation

In order to assess the effectiveness of the summer 1969 workshop in family life education, four hypotheses concerning the achievement of its objectives were formulated and tested. In this summary and conclusion of the evaluation, each of these hypotheses will be reviewed and its acceptability explained on the basis of the evidence of findings previously presented.

The first major hypothesis states:

> There are no significant differences between and among subjects in the comparison groups on any of the demographic characteristics assessed by the Demographic Questionnaire due to differences in the independent variables (1) level of school (elementary or secondary) and (2) experimental condition (participation or non-participation in the summer 1969 workshop).

Examination of the demographic data assessed by the Demographic Questionnaire and reported and analyzed in Tables 1 - 15 reveals that this hypothesis is completely acceptable insofar as it was tested. That is, there were no significant differences in such demographic characteristics as personal background, academic and professional training, and teaching experience between subjects in the experimental group and subjects in the control group. No further comparisons between and among groups of subjects were made to test the first hypothesis because, of the two independent variables in the evaluation design, only the second, experimental condition, was regarded as an important potential source of variation in demographic characteristics assessed for the purposes of this evaluation.

The second major hypothesis states:

> There are no significant differences between and among subjects in the comparison groups on a post-test measure of the dependent variables (1) personality characteristics, (2) attitudes toward human sexuality and family life education, and (3) knowledge of human sexuality, due to differences in the assigned independent variables (1) level of school (elementary or secondary) and (2) experimental condition (participation or non-participation in the summer 1969 workshop in family life education).

Examination of Tables 16 and 17, which report the results of multivariate and step-down univariate analysis of variance tests of the equality of mean score vectors of experimental and control group subjects on the Omnibus Personality Inventory (OPI), reveals that there were no significant differences between and among these subjects on this measure of personality characteristics. The acceptability of this part of the second major hypothesis was taken as the basis for concluding that random assignment to experimental conditions was effective in obtaining groups of subjects who were similar in the personality characteristics assessed by the OPI.

Examination of Tables 20 and 21, which report the results of multivariate and step-down univariate analysis of variance tests of the equality of mean score vectors of experimental and control group subjects on the Gordon Personality Inventory (GPI), reveals that there were significant differences between and among subjects on two scales of the GPI; i.e., those that assess two personality traits termed "Personal Relations" and "Ascendancy". Therefore, this part of the second major hypothesis is rejected in favor of the alternative hypothesis that subjects in the experimental group, who participated in the summer 1969 workshop, are "more tolerant, patient and understanding and have greater faith and trust in people" and also are "more verbally ascendant, adopt more active roles in a group, are more self-assured and assertive in relationships with others, and tend to make more independent judgments" than subjects in the control group, presumably because of their participation in the workshop's training activities. This conclusion implies that the summer 1969 workshop was effective in achieving one of its most important training objectives: to enhance participants' dispositions and skills in interpersonal relations and communications.

Examination of Tables 26 and 27, which report the results of multivariate and step-down univariate analysis of variance tests of the equality of mean score vectors on the post-test of the Family Life Attitude and Knowledge Inventory (FLAKI) administered to experimental and control group subjects, reveals that there were significant differences between and among subjects, both in certain attitudes toward human sexuality and family life education and in specific knowledge of matters of fact and expert scientific opinion regarding human sexuality. Therefore, this part of the second major hypothesis is rejected in favor of the alternative hypothesis that subjects in the experimental group demonstrate significantly more open and tolerant attitudes toward such controversial matters of human sexuality and family life education as "masculine-feminine roles," "sex drives," "sex education," and "contraceptive information," and they also demonstrate significantly greater knowledge of specific matters of fact and expert scientific opinion regarding human sexuality. This conclusion, too, implies that the summer 1969 workshop was effective in achieving another of its objectives: to clarify and modify participants' attitudes toward matters of human sexuality and family life education that are or may be viewed as controversial in American life and thought, and to increase their knowledge of specific matters of fact and expert scientific opinion regarding human sexuality. This conclusion is further supported by the results of testing the third major hypothesis.

The third major hypothesis states:

> There are no significant differences between and among subjects in the experimental group in the pre-test and successive post-test measures of the dependent variables (1) personality characteristics, (2) attitudes toward human sexuality and family life education, and (3) knowledge of human sexuality, due to differences in the assigned independent variables (1) level of school (elementary or secondary) and (2) experimental condition (previous training in family life education workshops or no previous training).

Examination of Tables 20 - 25, which report the results of multivariate and step-down univariate analysis of variance tests of the equality of mean score vectors of experimental group subjects on the pre-test and two successive post-tests of the Gordon Personality Inventory (GPI) and the Family Life Attitude and Knowledge Inventory (FLAKI), reveal that there were no significant differences between and among subjects in the experimental group on measures of the dependent variables due to differences in the assigned independent variables, (1) level of school (elementary or secondary) and (2) experimental condition (previous workshop training or no previous workshop training). The complete acceptability of this third major hypothesis is taken as support for the conclusion that the subjects in the experimental group were homogeneous in respect to the dependent variables of the evaluation study at the beginning of their participation in the summer 1969 workshop and they continued to demonstrate this homogeniety at the conclusion of their workshop training and again at the completion of two semesters' of teaching a course or unit in family life education. This conclusion implies that the effects of participation in the training activities of the summer 1969 workshop were equal in their impact upon experimental group subjects; i.e., that they were not differentiated by differences between them in level of school (elementary or secondary) or in experimental condition (previous workshop training or no previous workshop training). This conclusion is important to the interpretation of the results of testing the fourth major hypothesis, which also support the positive assessment of the effectiveness of the summer 1969 workshop.

The fourth major hypothesis states:

> There are no significant differences between mean score vectors of experimental group subjects on the pre-test and two successive post-test measures of the dependent variables (1) attitudes toward human sexuality and family life education and (2) knowledge of human sexuality due to their participation in the experimental treatment (the summer 1969 workshop) or their subsequent experience of teaching family life education.

Examination of Table 22, which indicates the result of multivariate and step-down univariate analysis of variance tests of the equality of the experimental group subjects' mean score vectors on the pre-test and two successive post-test administrations of the Family Life Attitude and Knowledge Inventory (FLAKI), reveals that there were significant differences between the mean scores achieved by experimental group subjects on the pre-test and the first post-test administration of the FLAKI, but that there were no significant differences between the mean scores achieved by these subjects on the first and second post-test administrations of the FLAKI. The partial unacceptability of the fourth major hypothesis led to the rejection of this hypothesis in favor of a modified alternative: between the pre-test and the first post-test administration of the FLAKI, subjects in the experimental group achieved statistically significant gains in their mean scores on six of the sixteen scales of Part II; i.e., on scales measuring attitudes toward "masculine-feminine roles," "sex drives," "masturbation," "homosexuality," "sex education," and "contraceptive information"; and also in their mean score on the test in Part III; ie, a measure of their knowledge of matters of fact and expert scientific opinion regarding human sexuality. However, between the first and second post-test administrations of the FLAKI, these same subjects did not achieve any statistically significant gains in their mean scores on the scales of Part II, but they did achieve a significant gain in their mean score on the test in Part III. These findings and the conclusions reached therefrom imply that the subjects in the experimental group responded to the training activities of the workshop by modifying and liberalizing their attitudes toward and also increasing their knowledge of certain matters of human sexuality and family life education; and that they responded to their experience of teaching a course or unit of family life education for two semesters by maintaining their liberalized attitudes toward while again increasing their knowledge of these same matters of human sexuality and family life education. Or, stated in other terms, the results of testing the fourth major hypothesis imply that the summer 1969 workshop was effective in achieving another of its training objectives: to enhance participants' attitudes toward maters of human sexuality and family life education by modifying them so that they will be more tolerant and flexible under the stress of controversy regarding them, better informed by knowledge of fact and expert scientific opinion, and therefore more stable and powerful in the service of teaching family life education.

A fifth major hypothesis was formulated to be tested by the evaluation study; it stated:

> There are no significant differences between the students of experimental group teachers and the students of control group teachers in their responses to the Student Evaluation of the Family Life Education Program.

The expectation was that this hypothesis would be rejected in favor of an alternative hypothesis stating that the students of experimental group teachers would evaluate their experience in the family life education program more favorably than the students of control group teachers. It was not possible, however, to test this hypothesis, because the "political climate" of the schools at the time of the planned testing of students was such that no sample of classes of students of control group teachers could be selected. Examination of Table 28, which summarizes the responses made by students of experimental group teachers to the Student Evaluation of the Family Life Education Program, reveals that these students rated their experience faverably, valuing the instructional methods and materials of their teachers slightly higher than the learning outcomes of such instruction. The favorable responses of the students of experimental group teachers can be interpreted as some support for the conclusion that the summer 1969 workshop provided training opportunities that helped the teachers who participated in it to acquire professional attitudes, understandings and skills that enabled them to offer their students interesting and effective instruction in family life education.

Further evidence of the effectiveness of the summer 1969 workshop is contained in Tables 18 and 19, which report the results of analysis of the experimental group teachers' responses to the Family Life Education Q-Sort. These results indicate that, in their own view and by their own report, as these are reflected in their FLEQ-Sort responses, the teachers who participated in the summer 1969 workshop regarded their experience as highly beneficial. In rating the workshop's objectives, organization, operation, and program, they remarked particular learning outcomes--increases in professional competence--that were affected by their participation in its training activities. From their responses to the FLEQ-Sort, it would appear, once again, that the summer 1969 workshop was unusually effective and successful in enabling its participants to achieve gains in their professional attitudes, understandings and skills for teaching family life education.

The findings summarized here are considered necessary and sufficient evidence for the conclusion that this evaluation reaches; namely, that the summer 1969 workshop in family life education was successful in that it achieved its training objectives to a noteworthy degree in every particular that this attempt to assess its effectiveness was able to judge within the framework of its evaluation design and the limits that practical considerations put upon the implementation of certain aspects of that design.

PART V

THE COMMUNICATION SKILLS WORKSHOP
FALL 1970

The Communications Skills Workshop, Fall Semester, 1970-71

In the Fall Semester of 1970-71, the Contra Costa County Family Life Education Project sponsored a Communications Skills Workshop for the entire staffs of two high schools in the County: Miramonte High School and Pacifica High School. The objectives of this in-service teacher training workshop may be summarily described as follows:

1. To stimulate freer communications among colleagues as they learn to give and take feedback, to listen for the full message being sent, and to send more congruent messages.
2. To encourage the development of trust in each other and the recognition of the value of honest confrontation as a replacement for the uncomfortable but common faculty room "gossip."
3. To increase openness in communications among administrators, teachers, and counselors concerning specific current problems in the school.
4. To encourage greater self-acceptance and acceptance of peers and students.
5. To increase effectiveness in the classroom through developing techniques for stimulating and responding to student evaluations of teacher instruction and interaction.

The program of the workshop began with a joint meeting of the staffs of the two experimental high schools and the instructional staff of the workshop on September 16, 1970. At this dinner meeting, the 105 volunteer participants were given an outline of the objectives and program of the project, were introduced to the project director, his instructional staff, and the small-group leaders, heard the first lecture on "transactional analysis," and took the pre-training test battery used in the evaluation of the workshop's effectiveness.

Following the opening meeting, the participants were divided into ten small groups of approximately ten persons each. The assignment of participants to small groups was made by the small-group leaders, who did not know the participants and who made the assignments on the basis of the participants' scores on the pre-training tests. In the scheduling of small-group meetings, first consideration was given to the participants' preferences for the four available evenings of the week. After consideration of the participants' convenience, the group leaders attempted to balance the membership of the groups as much as possible considering the school, sex and age of the participants.

The four major activities of the workshop's program overlapped each other chronologically, with slight variations in sequence for each of the small groups. The four major activities were:

1. In September and October, 1970, three lectures on "transactional analysis" were presented. (This theoretical framework for the workshop's activities was developed by Dr. Eric Berne, M. D., and provides a simple construct for conceptualizing the interactions among persons by describing what occurs in personal "transactions" when each of three "ego-states" are operating: the internalized "parent," the still-functioning inner "child," and the "adult" ego-state.)

2. On the weekend of October 30 - November 1, 1970, eighty-eight of the participants attended a weekend retreat at St. Francis Retreat of San Juan Bautista Mission. The program for the retreat included lectures, small- and large-group meetings for various training exercises, and an evaluation session. (A more detailed description of the program is included in the Appendix to this report.)

3. From mid-October through January, 1971, each small group met for ten sessions, including two at the weekend retreat. The original plan for the workshop's program projected weekly evening meetings; however, because of conflicting school activities, holidays, and two intervening joint meetings (the large-group communications sessions described below), the small-group meetings were actually held bi-weekly.

4. During this same period, from mid-October through January, 1971, each small group met with one or two other small groups three times, including once at the weekend retreat, to learn and practice communications skills, with emphasis on classroom interactions. In late January, the final meetings of the workshop were held in the two experimental high schools. At this final session, the local trainers, who had received intensive training in the facilitation of small-group communications by a member of the instructional staff, met with their fellow participants in their respective schools.

The Evaluation Design

The original evaluation design followed the "pre- and post-test with control group" paradigm. It projected testing of both faculty and students in the two experimental high schools, Miramonte and Pacifica, and in a control high school, Campolinda. Because the administrator of the control school was not able to secure the cooperation of his entire faculty, it was not possible for the evaluation team to pre-test or post-test the faculty or to pre-test the students of Campolinda. Therefore, the original evaluation design could not be carried out and alternative designs had to be planned *ex post facto*.

In the original evaluation design, the three independent variables were:

1. Experimental treatment (participation or non-participation in the workshop).

2. School's socio-economic status (Miramonte serves a high SES population; Pacifica, a low SES population; and Campolinda a medium SES population, about half-way between Miramonte and Pacifica).

3. Subject's occupational status (faculty or student).

The three dependent variables in this evaluation design were:

1. Interpersonal values profile, as assessed by Leonard V. Gordon's "Survey of Interpersonal Values" and measured on both faculty and students in both experimental and control high schools.

2. Personal growth characteristics, as assessed by Michael G. Blansfield and Gordon L. Lippitt's "Personal Growth Inventory" and measured on the faculty of both experimental and control high schools.

3. Opinion of the workshop's impact, as assessed by an evaluative questionnaire administered to both faculty and students in the experimental high schools.

In the original evaluation design, three major hypotheses were formulated for testing in order to assess the effectiveness of the workshop on the basis of statistical analysis of data gathered on the first two dependent variables. These three major hypotheses were:

1. There will be a statistically significant difference ("gain") between the pre-test and post-test interpersional values profiles of both faculty and students in the experimental high schools, but there will be no statistically significant difference between the pre-test and post-test interpersonal values profiles of the faculty and students in the control high school.

2. There will be a statistically significant difference ("gain") between the pre-test and post-test personal growth characteristics of the faculty in the experimental high schools, but there will be no statistically significant difference between the pre-test and post-test personal growth characteristics of the faculty in the control high school.

3. There will be statistically significant differences between the interpersonal values profiles of the faculty and those of the students on both the pre-test and the post-test in both the experimental and the control high schools; but whereas these differences will diminish in the experimental schools, they will remain constant in the control school.

As previously explained, it was not possible for the evaluation team to pre-test and post-test faculty and students in the control high school on the dependent variables specified in these three major hypotheses; and therefore, it was not possible to evaluate the workshop's effectiveness by testing these hypotheses. Instead, three alternative hypotheses were formulated for testing, even though it would not be possible to infer conclusions regarding the workshop's effectiveness from the results of testing them. The three major hypotheses tested in order at least to assess the kind of effect the workshop had had upon faculty and students in the experimental high schools were:

1. There will be a statistically significant difference between the pre-test and post-test interpersonal values profiles of both the faculty and the students in the two experimental high schools.

2. There will be a statistically significant difference between the pre-test and the post-test personal growth characteristics of the faculty in the two experimental high schools.

3. There will be a statistically significant difference between the interpersonal values profiles of the faculty and those of the students in both of the experimental high schools on both the pre-test and the post-test, but this difference will diminish and the faculty and student profiles will become more nearly congruent on the post-test.

The Evaluation Instruments and Procedures

Measures on the first dependent variable of the evaluation study, interpersonal values profile, were taken by pre- and post-test administrations of Leonard V. Gordon's "Survey of Interpersonal Values." This instrument purports to measure basic motivational patterns of interpersonal relationships on six scales found by factor analysis to discriminate meaningful dimensions of interpersonal values. It consists of thirty forced-choice items balanced as much as possible for social desirability. Each item requires the respondant to choose one statement of an interpersonal value most important to him and one statement of an interpersonal value least important to him from three such statements. Each response to each item is scored on one or more of the six scales which are designated, defined and summarily described below. (In the following desdriptions, each of the six scales of Gordon's "Survey of Interpersonal Values" (SIV) is compared with comparable scales on other instruments with which it has been found to be significantly correlated, such as Guildford's "Human Interests," (GHI), Edward's "Personal Preference Schedule," (EPPS), Gordon's "Personal Inventory," (GPI), Gordon's "Personal Profile," (GPP), and Schutz's "Personal Needs Assessment," (FIRO-B).

1. *Support* (S): Being treated with understanding, receiving encouragement from other people, being treated with kindness and consideration. (Cf. GHI "Sympathetic Environment"; EPPS, "Need for Succorance"; GPI and GPP, "Original Thinking," "Vigor," "Ascendance," and "Responsibility".)

2. *Conformity* (C): Doing what is socially correct, following regulations closely, doing what is accepted and proper, being a conformist. (Cf. GHI, "Cultural Conformity"; GPI and GPP, "Cautiousness" and "Responsibility"; FIRO-B, "Moderate," wanting to initiate interaction, to be included and to give and take affection.) This scale does not overlap *Independence*, defined below.

3. *Recognition* (R): Being looked up to and admired, being considered important, attracting favorable notice, achieving recognition. (Cf. GHI, "Need for Attention"; EPPS, "Need for Achievement and Succorance"; GPI and GPP, "Emotional Stability"; FIRO-B, "Need to Control Others".)

4. *Independence* (I): Having the right to do whatever one wants to do, being free to make one's own decisions, being able to do things in one's own way. (GHI, "Resistance to Restriction"; EPPS, "Need for Autonomy"; GPP, "Sociability"; FIRO-B, "Need not to interact with others or act close and personal, whether initiated by self or by others.")

5. *Benevolence* (B): Doing things for other people, sharing with others, helping the unfortunate, being generous. (Cf. EPPS, "Need for Nurturance"; GPI, "Personal Relations".

6. *Leadership* (L): Being in charge of other people, having authority over others, being in a position of leadership or power. (Cf. EPPS, "Need for Dominance"; GPI and GPP, "Original Thinking," "Vigor," and "Ascendancy".)

In his *Manual* for the SIV, Gordon refers to conflicts that may arise from the presence of "strong, incompatible values within the individual . . . which may affect his efficient and personal adjustment." Extremely high or low scores on any of the six scales of the SIV reflect strong affect concerning that need or trait which may be a source of intra- and inter-personal conflict, particularly if it correlates significantly with extreme scores on "incompatible" needs or traits. Therefore, extremely high or low scores must be interpreted in relation to other scale scores comprising the interpersonal values profile.

Measures on the second dependent variable of the evaluation study, personal growth characteristics, were taken by pre- and post-test administrations of the "Personal Growth Inventory" (PGI) developed by Michael G. Blansfield and Gordon L. Lippitt. This instrument, which is used extensively by the National Training Laboratories, is intended to serve not so much as a test instrument but rather as an "instrument for learning." Nevertheless, it is believed to provide measurement scales appropriate to the objectives of the Communications Skills Workshop. The PGI consists of twenty-one scales, each one a continuum on which ten equi-distant points, numbered zero to nine, are distinguished. Respondants are asked to indicate their present assessment and their future aspiration on each scale, thus rating themselves on their actual personal characteristics and their projected growth characteristics. The twenty-one scales are designated and defined in polar terms as follows:

1. Self-Understanding: Don't know self - Know self a great deal.
2. Self-Esteem: Very low - Very high.
3. Courage to Fail: Very low - Very high.
4. Giving Love: I am a cold fish - I am exceptionally warm and affectionate.
5. Accepting Love: Makes me uneasy - I value all I can get.
6. Openness: I reveal little of myself - I reveal much of myself.
7. Peace of Mind: I am restless and dissatisfied - I am at peace with myself.
8. Tendency to Trust Others: Quite suspicious - Very trusting.
9. Level of Aspiration: Quite low - Extremely high.
10. Physical Energy: I tire easily and quickly - I am vital and resiliant.
11. Versatility: I can do only a few things well - I can do many things well.
12. Innovativeness: I like to keep the status quo - I am exceptionally creative and inventive.
13. Expressing Anger: I express it openly - I repress it consistently.
14. Receiving Hostility: It immobilizes me - It stimulates me.
15. Clarity in Expressing My Thoughts: Quite vague - Exceptionally clear.
16. Ability to Listen in an Alert and Understanding Way: Very low - Very high.
17. Reactions to Comments about or Evaluations of My Behavior: I ignore them - I take them very seriously.
18. Tolerance of Differences in Others: Very low - Very high.
19. Interest in Learning: Relatively dormant - Very active.
20. Independence: Very little - A great deal.
21. Vision of the Future: Think mainly of the present - Often try to envision and plan for the future.

Measures on the third dependent variable of the evaluation study, opinion concerning the impact of the Communication Skills Workshop on the life and work of staff and pupils in the experimental schools, were obtained by means of a questionnaire constructed by the evaluation team. Actually, two very similar questionnaires were used, one for staff and one for students. The "Faculty Questionnaire" contains 15 items; the "Student Questionnaire," 12 items. On both questionnaires, each item describes a change in the morale, emotional climate, or interpersonal relations among faculty and students in the school and requires the respondant to indicate his impression of the amount of such change in one of three response categories: 1) A lot. 2) Some. 3) A little or none. The two questionnaires were distributed and collected about two weeks after the final meeting of the workshop. The responses of both faculty and students were anonymous, being identified only by the name of the school.

A copy of each of the instruments used in the evaluation study, the Gordon " urvey of Interpersonal Values," the Blansfield and Lippitt 2 "Personal Growth Inventory," the "Faculty Questionnaire," and the "Student Questionnaire," are included in the Appendix to this report.

The Population Studied in the Evaluation

The subjects of the evaluation study were the faculty and students of two experimental high schools, Miramonte and Pacifica, and the students of the control high school, Campolinda.

Table 1, following, presents data describing the school affiliation and job classification of participants in the workshop. From this table, it will be seen that 80% of the staff of the two experimental high schools were enrolled in the workshop; 74% of the staff of Miramonte and 86% of the staff of Pacifica. It will also be seen that 76% of the staff of the two experimental high schools completed the workshop; 70% of the staff of Miramonte and 83% of the staff of Pacifica.

Table 2, following, presents biodata on the 100 participants who completed the workshop. (Note that the figures reported in this table indicate percentages as well as numbers.)

Table 3, following, presents the numbers of students in the experimental and control groups who were tested with the Gordon "Survey of Interpersonal Values." These students were a random sample drawn from all grades, nine through twelve, of the two experimental high schools, Miramonte and Pacifica, and the control high school, Campolinda. Note, however, that the sample of students tested at the control high school, Campolinda, were not pre-tested with the SIV.

Table 1. Number and Percentage of Workshop Participants in Each School and in Each Job Classification.

		Enrolled		Dropped		Completed	
Miramonte High School		#	%	#	%	#	%
Administrators	(4)	4	100	0		4	100
Counselors	(4)	4	100	1		3	75
Teachers	(55)	43	78	2		41	76
Other Staff	(9)	2	22	0	—	2	22
Total	(72)	53	74	3	4	50	70
Pacifica High School							
Administrators	(4)	4	100	0		4	100
Counselors	(4)	3	75	0		3	75
Teachers	(42)	39	92	3		36	86
Other Staff	(9)	6	70	0	—	6	70
Total	(59)	52	88	3	5	49	83
Both Schools							
Administrators	(8)	8	100	0		8	100
Counselors	(8)	7	87	1		6	75
Teachers	(97)	82	85	5		77	80
Other Staff	(18)	8	47	0	—	8	43
Total	(131)	105	80	6	4	99*	76

*One counselor, not a member of the staff at either school, enrolled in and completed the workshop, bringing the total of participants who completed the workshop to 100.

Table 2. Biodata on Participants Who Completed the Workshop

Sex	# and %
Men	56
Women	44
Age	
21 - 30	27
31 - 40	29
41 - 50	34
51 and over	10
Classification	
Administrator	8
Counselor	7
Teacher	77
Other Staff	8
Education	
Less than BA	3
BA	8
BA plus 30 - 100 units	75
MA	14
Years of Professional Experience	
1 - 5	8
6 - 10	27
11 - 15	25
16 - 20	17
21 and over	10
Marital Status	
Single	16
Married	74
Divorced or Widowed	10

Table 3. Numbers of Students in the Experimental and Control Schools Tested with the Gordon "Survey of Interpersonal Values."

Miramonte High School	66	60
Pacifica High School	59	30
Campolinda High School	0	81
Total	125	171

Analysis of Interpersonal Values Profiles

Gordon's "Survey of Interpersonal Values" (SIV) was administered as a pre-test and a post-test to the faculty and a sample of the students in the two experimental high schools, Miramonte and Pacifica, and as a post-test to a sample of the students in the control high school, Campolinda. The results of testing the subjects in the experimental groups is reported in Table 4, which indicates the "interpersonal values profiles" (mean score vectors on the SIV) and the standard deviations in these scores for each experimental group at each test administration. In Table 4, each of the eight interpersonal values profiles is identified by a three-digit number, in which the first digit identifies the level of the first factor (test administration: 1 - pre-test; 2 - post-test); the second digit identifies the level of the second factor (school: 1 - Miramonte; 2 - Pacifica); and the third digit identifies the level of the third factor (status: 1 - faculty; 2 - students).

Differences between and among the "interpersonal values profiles" (mean score vectors on the SIV) reported in Table 4 were tested for statistical significance by multivariate analysis of variance. This analysis was performed on the CDC 6400 computer at the University of California at Berkeley Computer Center, using the CALIF Program of univariate and multivariate analysis of variance, covariance and regression, which was adapted from the NYBMUL Program written by Dr. Jeremy D. Finn of the Department of Educational Psychology, State University of New York at Buffalo. The results of these comparisons are reported in Tables 5 through 17.

Table 4.a. Mean Scores and Standard Deviations of Experimental High School Faculty and Students on the Pre-test of Gordon's "Survey of Interpersonal Values".

	Miramonte High School				Pacifica High School			
	Faculty (N=53)		Students (N=66)		Faculty (N=52)		Students (N=59)	
Scale	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
Support	19.67	5.69	19.02	4.78	17.68	5.60	17.56	4.15
Conformity	10.55	6.29	7.53	5.72	11.45	7.82	11.56	5.59
Recognition	12.18	4.96	10.58	4.27	11.68	4.93	11.17	4.34
Independence	18.95	6.85	21.58	5.70	18.57	5.76	20.47	5.96
Benevolence	16.80	5.70	19.06	5.61	17.66	5.84	16.20	4.79
Leadership	11.87	7.53	12.00	5.81	12.87	7.84	12.56	5.07
Vector Code	111		112		121		122	

Table 4.b. Mean Scores and Standard Deviations of Experimental High School Faculty and Students on the Post-Test of Gordon's "Survey of Interpersonal Values".

	Miramonte High School				Pacifica High School			
	Faculty (N=37)		Students (N=60)		Faculty (N=36)		Students (N=30)	
Scale	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
Support	20.29	5.06	19.98	3.68	18.11	5.64	14.80	5.08
Conformity	9.70	6.98	6.17	4.49	11.61	6.80	12.37	6.07
Recognition	11.06	4.69	11.55	4.83	11.42	5.00	10.30	4.51
Independence	20.57	6.96	21.85	5.72	20.31	6.65	21.33	6.75
Benevolence	17.00	5.84	18.47	5.75	15.69	5.32	15.47	3.86
Leadership	11.46	5.79	12.07	5.83	12.89	6.79	15.73	4.62
Vector Code	211		212		221		222	

The first major hypothesis of the evaluation study concerns the "gains" in "interpersonal values profiles" (mean score vectors on the SIV) achieved by the workshop participants in the two experimental groups between the pre-test and the post-test. Therefore, the first comparison of the profiles reported in Table 4 is between the four pre-test and the four post-test mean score vectors; i.e., between vectors 111, 112, 121 and 122 compared with vectors 211, 212, 221, and 222. The results of the over-all comparison of pre-test and post-test profiles is reported in Table 5, below.

Table 5. Analysis of Variance Table for the Comparison of All Pre-Test and Post-Test Mean Score Vectors on the SIV.

Scale	Univariate F-Ratio	Probability Less Than
Support	.01	.9949
Conformity	1.68	.1960
Recognition	.01	.9927
Independence	3.06	.0809
Benevolence	.80	.3728
Leadership	.61	.4351

Multivariate Test of Equality of Mean Score Vectors:
$F_{6,382}$ = .9116, with a probability less than .4864.

Table 5 indicates that none of the differences between the four pre-test and the four post-test "interpersonal values profiles" is statistically significant at or beyond the .05 level of probability of a Type I error, the level at which the test of this hypothesis was controlled.

The second comparison of the profiles reported in Table 4 is between the two faculty pre-test mean score vectors and the two faculty post-test mean score vectors; i.e., between vectors 111 and 121 compared with 211 and 221. The results of this comparison are reported in Table 6, below.

Table 6. Analysis of Variance Table for the Comparison of Faculty Pre-Test and Post-Test Mean Score Vectors on the SIV.

Scale	Univariate F-Ratio	Probability less than
Support	.25	.6180
Conformity	.08	.7766
Recognition	.18	.6679
Independence	2.78	.0972
Benevolence	.91	.3424
Leadership	.02	.8939

Multivariate Test of Equality of Mean Score Vectors:
$F_{6,173}$ = .7865, with a probability less than .5817.

Table 6 indicates that the difference between the faculty pre-test and post-test mean score vectors on the SIV is not statistically significant at or beyond the .05 level of probability of a Type I error, the level at which the test of this hypothesis was controlled.

The third comparison of "interpersonal values profiles" reported in Table 4 is between the two student pre-test and the two student post-test mean score vectors; i.e., between vectors 112 and 122 compared with vectors 212 and 222. The results of this comparison are reported in Table 7, below.

Table 7. Analysis of Variance Table for the Comparison of Student Pre-Test and Post-Test Mean Score Vectors on the SIV.

Scale	Univariate F-Ratio	Probability Less Than
Support	.28	.5965
Conformity	2.14	.1446
Recognition	.20	.6552
Independence	.58	.4485
Benevolence	.11	.7424
Leadership	1.78	.1841

Multivariate Test of Equality of Mean Score Vectors:
$F_{6,208} = .7312$, with a probability less than .6250.

Table 7 indicates that the difference between the student pre-test and post-test mean score vectors on the SIV is not statistically significant at or beyond the .05 level of probability of a Type I error, the level at which the test of this hypothesis was controlled.

Further comparisons between pre-test and post-test "interpersonal values profiles" were made to find statistically significant differences, or "gains," for one or the other of the two experimental high schools, or for either faculty or students within these schools. In all of these comparisons, only one statistically significant difference, or "gain", was found, That between the pre-test and post-test profiles of the students at Pacifica High School. The results of this comparison are reported in Table 8, below:

Table 8. Analysis of Variance Table for the Comparison of Pre-Test and Post-Test Mean Score Vectors on the SIV for Students of Pacifica High School.

Scale	Univariate F-Ratio	Probability Less Than
Support	7.55	.0074
Conformity	.39	.5333
Recognition	.78	.3807
Independence	.38	.5407
Benevolence	.53	.4672
Leadership	8.27	.0051

Multivariate Test of Equality of Mean Score Vectors:
$F_{6,82} = 2.2619$, with a probability less than .0454.

Table 8 indicates that the difference between the pre-test and post-test "interpersonal values profiles" of the students at Pacifica High School is statistically significant beyond the .05 level of probability of a Type I error, the level at which the test for this hypothesis was controlled. It indicates further that this difference is due to differences between these students' mean scores on two scales, Support and Leadership, which were statistically significant beyond the .01 level of probability of a Type I error, the level at which this sub-hypothesis test was controlled. From this result, it follows that the decrease of 2.76 in their mean score on the Support scale and the increase of 3.17 in their mean score on the Leadership scale account for the "gain" achieved by Pacifica High School students between the pre-test and the post-test with the SIV. This "gain" can be interpreted to reflect a change in these students' "interpersonal values profile" from a preference for (in the terms by which Gordon defines the Support and Leadership scales) "being treated with understanding, receiving encouragement from other people, being treated with kindness and consideration" to a preference for "being in charge of other people, having authority over others, being in a position of leadership and power." Since neither the pre-test mean score nor the post-test mean score on these two scales was an extreme score (that is, above the 75th percentile or below the 25th percentile in the table of national norms for high school students' mean scores on the SIV), which would have indicated the possibility of inter- or intra-personal conflicts between the values assessed by these two scales, it is not possible to say how *meaningful* this statistically significant difference between these students' pre-test and post-test profiles actually is.

Implicit in the first major hypothesis of the evaluation study is the assumption that, because the two experimental schools, Miramonte High School and Pacifica High School, serve school populations which differ significantly in socio-economic status (Miramonte, high SES; Pacifica, low SES), it is reasonable to expect a significant difference in the "gain" achieved by the faculty and students of the two schools. That is, it is reasonable to expect that the Communications Skills Workshop might have had a differential effect upon the faculty and students of the two experimental schools that would be observable in a comparison of their pre-test and post-test "interpersonal values profiles" and attributable to the difference in their socio-economic status. Therefore, appropriate comparisons were made between the eight mean score vectors on the SIV reported in Table 4 to look for statistically significant differences between schools; i.e., between the faculty and students of Miramonte and the faculty and students of Pacifica. The results of this over-all comparison between schools (vectors 111, 112; 211 and 212 compared with vectors 121, 122; 221 and 222) are reported in Table 9, following.

Table 9. Analysis of Variance Table for the Comparison of Miramonte Faculty and Students Mean Score Vectors with Pacifica Faculty and Students Mean Score Vectors on the SIV.

Scale	Univariate F-Ratio	Probability Less Than
Support	21.70	.0001
Conformity	27.92	.0001
Recognition	.34	.5622
Independence	1.06	.3046
Benevolence	8.53	.0038
Leadership	4.86	.0282

Multivariate Test of Equality of Mean Score Vectors:
$F_{6,382}$ = 8.6785, with a probability less than .0001.

Table 9 indicates that, on both the pre-test and the post-test, there are statistically significant differences between the "interpersonal values profiles" of faculty and students at Miramonte and those of faculty and students at Pacifica at or beyond the .05 level of probability of a Type I error, the level at which the test of this hypothesis was controlled. These differences are seen, in Table 9, to be due to differences between these groups' mean scores on three scales, Support, Conformity, and Benevolence, which are statistically significant beyond the .01 level of probability of a Type I error, the level at which the tests of these sub-hypotheses were controlled.

More specific two-way comparisons of "interpersonal values profiles" were made in order to find more specifically meaningful differences between the mean score vectors of Miramonte faculty and students and those of Pacifica faculty and students. These comparisons revealed that the difference between the two experimental high schools was due to differences in the profiles of the students, not to differences between the profiles of the faculty. That is, no statistically significant differences were found, either on the pre-test or on the post-test, between the "interpersonal values profiles" of the faculty at Miramonte and those of the faculty at Pacifica. Between the profiles of Miramonte students and those of Pacifica students, however, statistically significant differences were found in comparing both pre-test and post-test mean score vectors.

Table 10, following, reports the results of comparing the pre-test mean score vectors of Miramonte High School students with those of Pacifica High School students; i.e., vectors 112 and 122.

4

Table 10. Analysis of Variance Table for the Comparison of Miramonte and Pacifica Students' Pre-Test Mean Score Vectors on the SIV.

Scale	Univariate F-Ratio	Probability Less Than
Support	3.27	.0731
Conformity	15.80	.0002
Recognition	.59	.4428
Independence	1.11	.2936
Benevolence	9.27	.0029
Leadership	.33	.5696

Multivariate Test of Equality of Mean Score Vectors:
$F_{6,118} = 4.4137$, with a probability less than .0005.

Table 10 indicates that the pre-test "interpersonal values profile" of Miramonte students is significantly different from that of Pacifica students well beyond the .05 level of probability of a Type I error, the level at which this test was controlled. It indicates further that this difference is due to differences between mean scores on two scales, Conformity and Benevolence, which are statistically significant well beyond the .01 level of probability of a Type I error, the level at which the tests of these sub-hypotheses were controlled.

Table 11, below, reports the results of comparing the post-test mean score vectors of Miramonte High School students with those of Pacifica High School students; i.e. of comparing vectors 212 and 222.

Table 11. Analysis of Variance Table for the Comparison of Miramonte and Pacifica Students' Post-Test Mean Score Vectors on the SIV.

Scale	Univariate F-Ratio	Probability Less Than
Support	16.39	.0001
Conformity	7.97	.0054
Recognition	.01	.9832
Independence	.36	.5511
Benevolence	19.42	.0001
Leadership	17.62	.0001

Multivariate Test of Equality of Mean Score Vectors:
$F_{6,118} = 7.8789$, with a probability less than .0001.

Table 11 indicates that the post-test "interpersonal values profile" of Miramonte students is also significantly different from that of Pacifica students well beyond the .05 level of probability of a Type I error, the level at which the test of this hypothesis was controlled. It indicates further that this difference is due to the differences between mean scores on four scales, Support, Conformity, Benevolence and Leadership, which are statistically significant well beyond the .01 level of a Type I error, the level at which these tests of sub-hypotheses were controlled.

From the results reported in Tables 10 and 11, it follows that, prior to the Communications Skills Workshop, the students at Miramonte High School differed from those at Pacifica in their "interpersonal values" in that (in the language in which the SIV scales are designated and defined) their mean score on the Conformity scale is 4.03 points lower, indicating a lower preference for "doing what is socially correct, following regulations closely, doing what is accepted and proper, being a conformist," and their mean score on the Benevolence scale is 2.96 points higher, indicating a greater preference for "doing things for other people, sharing with others, helping the unfortunate, and being generous." From these results it follows also that, subsequent to the Communications Skills Workshop, the students at Miramonte differed even more widely from those at Pacifica in their "interpersonal values." The Miramonte students' mean score on the Conformity scale is now 6.20 points lower and their mean score on the Benevolence scale is now 3.00 points higher than the Pacifica students' mean scores. Furthermore, the Miramonte students' mean score on the Support scale is now 5.22 points higher, indicating their greater preference for "being treated with understanding, receiving encouragement from other people, being treated with understanding, kindness and consideration," and their mean score on the Leadership scale is now 2.66 points lower, indicating their lower preference for "being in charge of others, having authority over others, being in a position of leadership and power." These results can be interpreted to mean that the impact of the Communications Skills Workshop upon the students in the two experimental high schools was differential and that it tended to increase the differences between the two student populations in the directions in which they were already significantly different. As will be seen shortly, the increased difference between the two experimental groups of students is related to changes in the relationships between the "interpersonal values" of faculty and those of students between the pre-test and the post-test of the SIV, particularly in Miramonte High School.

The third hypothesis of the evaluation study, regarding the congruence of faculty and student "interpersonal values profiles" within the experimental high schools, assumes that one effect of the faculty's participation in the Communications Skills Workshop could be improved communications between faculty and students, such that the differences between their respective profiles would be diminished and greater congruence between them be evident in a comparison of the post=test mean score vectors. To test this hypothesis, appropriate comparisons were made between the eight mean score vectors reported in Table 4 in order to look for statistically significant differences between faculty and student profiles within the experimental high schools. The results of the over-all comparison of profiles of experimental school faculty with these of experimental school students are reported in Table 12, following.

Table 12. Analysis of Variance Table for the Comparison of Faculty and Student Mean Score Vectors on the Pre- and Post-Test of the SIV.

Scale	Univariate F-Ratio	Probability Less Than
Support	3.19	.0750
Conformity	7.71	.0053
Recognition	3.42	.0651
Independence	8.35	.0041
Benevolence	1.61	.2055
Leadership	.63	.4284

Multivariate Test of Equality of Mean Score Vectors:
$F_{6,382}$ = 3.1843, with a probability of less than .0047.

Table 12 indicates that, in both the pre-test and the post-test, there was a statistically significant difference between the "interpersonal values profiles" of faculty and those of students in the two experimental high schools, and that this difference is due to differences between their mean scores on two scales, Conformity and Independence, which are statistically significant beyond the .01 level of probability of a Type I error, the level at which the tests of these sub-hypotheses were controlled.

More specific two-way comparisons of faculty and student profiles were made in order to find more specifically meaningful differences between them and test the hypothesis that these differences diminished on the post-test. These comparisons revealed that the differences between faculty and student profiles were due to differences in only one of the experimental high schools: Miramonte. No statistically significant differences were found between the faculty profiles and the student profiles in Pacifica High School, neither on the pre-test nor on the post-test. The results of comparing the pre-test profiles of faculty and students at Miramonte High School are reported in Table 13, below.

Table 13. Analysis of Variance Table for the Comparison of Miramonte Faculty and Student Mean Score Vectors on the Pre-Test of SIV.

Scale	Univariate F-Ratio	Probability Less Than
Support	.49	.4869
Conformity	7.97	.0056
Recognition	3.82	.0530
Independence	5.51	.0206
Benevolence	5.03	.0268
Leadership	.01	.9105

Multivariate Test of Equality of Mean Score Vectors:
$F_{6,119}$ = 2.3466, with a probability less than .0354.

Table 13 indicates that, on the pre-test of the SIV, the difference between the "interpersonal values profiles" of Miramonte faculty and students was statistically significant beyond the .05 level of probability of a Type I error, the level at which the test of this hypothesis was controlled. It also indicates that this difference was due mainly to the difference between faculty and student mean scores on the Conformity scale, which was statistically significant beyond the .01 level of probability of a Type I error, the level at which the test of this hypothesis was controlled.

Table 14, below, reports the results of comparing the post-test profiles of Miramonte faculty and students; i.e., vectors 211 and 212.

Table 14. Analysis of Variance Table for the Comparison of Miramonte Faculty and Students' Mean Score Vectors on the Post-Test SIV.

Scale	Univariate F-Ratio	Probability Less Than
Support	.64	.4245
Conformity	9.25	.0031
Recognition	.10	.7532
Independence	.97	.3266
Benevolence	1.47	.2279
Leadership	.25	.6187

Multivariate Test of Equality of Mean Score Vectors:
$F_{6,90} = 1.7962$, with a probability less than .1068.

Table 14 indicates that, on the post-test of the SIV, the difference between the "interpersonal values profiles" of Miramonte faculty and students was not statistically significant at or beyond the .05 level of probability of a Type I error, the level at which the test of this hypothesis was controlled. It indicates further that the only difference between the two profiles that was statistically significant at the .01 level of probability of a Type I error was that between mean scores on the Conformity scale. This difference was even greater on the post-test than it was on the pre-test, the difference on the post-test being 3.53 points; that on the pre-test, 3.02 points. From this result, it follows that the difference between the Miramonte faculty's "interpersonal values profiles" and those of the Miramonte students did, in fact, diminish between the pre-test and the post-test, particularly on the Conformity, Independence and Benevolence scales. But this finding cannot be interpreted to mean that all of the basis for interpersonal conflict between faculty and students due to differences in their interpersonal values, particularly the preferences for being conformist, were eliminated by the teachers' participation in the Communications Skills Workshop. Even the profiles of Miramonte faculty and students are more nearly congruent on the post-test than they were on the pre-test, their mean scores on the Conformity scale were even farther apart on the post-test. That is, the Miramonte students' mean score on the Conformity scale, which was already extremely low on the pre-test (by national norms for high school students), was even lower on the post-test and differed even more greatly from the faculty's mean score on this scale.

Earlier in this report of the evaluation study, it was reported that statistically significant differences were found between the "interpersonal values profiles" of the students in Miramonte High School and those of the students in Pacifica High School, both on the pre-test and on the post-test of the SIV. The SIV was administered as a post-test not only to a sample of students in the two experimental high schools but also to a sample of students at Campolinda, the control high school. The results of this testing are reported in Table 15, following, which presents the mean scores and standard deviations of students in the two experimental high school and in the control high school.

Table 15. Mean Scores and Standard Deviations of Students in Two Experimental and One Control Groups on the Post-Test of the SIV.

Scale	Miramonte HS (N = 60)		Pacifica HS (N = 30)		Campolinda HS (N = 81)	
	Mean	S.D.	Mean	S.D.	Mean	S.D.
Support	19.58	3.68	14.80	5.08	18.58	4.55
Conformity	6.17	4.49	12.37	6.07	9.31	5.07
Recognition	11.55	4.83	10.30	4.51	10.32	4.56
Independence	21.85	5.72	21.33	6.75	20.58	5.69
Benevolence	18.47	5.75	15.47	3.86	20.28	5.02
Leadership	12.07	5.83	15.73	4.62	11.10	4.82

The "interpersonal values profile" of each of the experimental high schools was compared with that of the control high school to look for statistically significant differences in the interpersonal values of the three groups of students. The results of comparing the profile of Miramonte students with that of Campolinda students on the post-test of the SIV are reported in Table 16, below.

Table 16. Analysis of Variance Table for the Comparison of Miramonte and Campolinda Students' Mean Score Vectors on the Post-Test of SIV.

Scale	Univariate F-Ratio	Probability Less Than
Support	8.36	.0244
Conformity	23.88	.0001
Recognition	2.75	.0990
Independence	1.27	.2609
Benevolence	.40	.5304
Leadership	.12	.7314

Multivariate Test of Equality of Mean Score Vectors:
$F_{6,163}$ = 5.4009, with a probability less than .0001.

The results of comparing the "interpersonal values profile" of Pacifica High School students with that of Campolinda High School students on the post-test of the SIV are reported in Table 17, below.

Table 17. Analysis of Variance Table for the Comparison of Pacifica and Campolinda Students' Mean Score Vectors on the Post-Test of SIV.

Scale	Univariate F-Ratio	Probability Less Than
Support	16.39	.0001
Conformity	7.97	.0054
Recognition	.04	.9832
Independence	.36	.5511
Benevolence	19.52	.0001
Leadership	17.62	.0001

Multivariate Test of Equality of Mean Score Vectors:
$F_{6,163} = 7.8789$, with a probability less than .0001.

Tables 16 and 17 indicate that both the Miramonte and the Pacifica High School students' "interpersonal values profiles" differ significantly from the Campolinda High School students' profile on the post-test of the SIV, beyond the .05 level of probability of a Type I error, the level at which the test of this hypothesis was controlled. Inspection of Table 16 reveals that the difference between the Miramonte students' profile and the Campolinda students' profile is due entirely to the difference between their mean scores on the Conformity scale, which is statistically significant beyond the .01 level of probability of a Type I error, the level at which the tests of these sub-hypotheses were controlled. Inspection of Table 17 reveals that the difference between the Pacifica students' profile and the Campolinda students' profiles is due to differences between their mean scores on four of the six scales, Support, Conformity, Benevolence and Leadership, all of which are statistically significant beyond the .01 level of probability of of Type I error, the level at which the tests of these sub-hypotheses were controlled. Furthermore, comparison of Table 17 with Table 9 reveals that the Pacifica students' profile on the post-test of the SIV differs from the Campolinda students' profile in the same way and almost to the same extent as it differs from the Miramonte students' profile on the same test; namely, in the mean scores on the Support, Conformity, Benevolence and Leadership scales. Since the Miramonte students' profile did not change significantly between the pre-test and the post-test of the SIV, and whereas the Pacifica students' profile did change significantly between the two test administrations, particularly in the mean scores on the Support and Leadership scales, it appears that the principal impact of the Communications Skills workshop upon students in the two experimental high schools was to effect a significant change in the interpersonal values of Pacifica students in the dimensions that Gordon designates and defines as Support and Leadership. That is, one effect of the Pacifica faculty's participation in the workshop seems to be a decrease in their students' preference for "Support" and an increase in their preference for "Leadership."

Analysis of Personal Growth Profiles

Blansfield and Lippitt's "Personal Growth Inventory" was administered as a pre-test and as a post-test to the faculty of the two experimental high schools, Miramonte and Pacifica, to assess changes in their attitudes associated with their participation in the Communications Skills Workshop. The results of this testing are reported in Table 18, below, which indicates the mean score and standard deviation for the experimental group of faculty on each of the scales of the "Personal Growth Inventory," (PGI).

Table 18. Mean Scores and Standard Deviations for the Experimental Group of Faculty on the Pre-Test and the Post-Test of the PGI.

Scale	Pre-Test		Post-Test	
	Mean	S.D.	Mean	S.D.
1. Self-Understanding	6.08	1.24	7.07	1.07
2. Self-Esteem	5.86	1.36	6.62	1.28
3. Courage to Fail	4.93	1.83	5.75	1.54
4. Giving Love	6.05	1.63	6.93	1.24
5. Accepting Love	6.08	1.61	6.74	1.28
6. Openness	5.30	1.97	6.12	1.58
7. Peace of Mind	5.64	1.62	6.29	1.50
8. Tendency to Trust Others	5.91	1.70	6.56	1.32
9. Level of Aspiration	6.40	1.53	6.97	1.26
10. Physical Energy	6.33	1.66	6.75	1.50
11. Versatility	6.06	1.45	6.60	1.28
12. Innovativeness	5.68	1.51	6.23	1.30
13. Expressing Anger	5.05	1.91	5.22	1.70
14. Receiving Hostility	4.62	1.56	5.23	1.46
15. Clarity in Expressing Thoughts	5.35	1.61	6.01	1.53
16. Ability to Listen in an Alert and Understanding Way	5.93	1.67	6.60	1.33
17. Reactions to Comments About or Evaluations of My Behavior	6.33	1.37	6.63	1.31
18. Tolerance of Differences in Others	6.26	1.46	6.92	1.15
19. Interest in Learning	6.83	1.67	6.86	1.32
20. Independence	6.38	1.31	7.25	1.21
21. Vision of the Future	6.32	1.64	6.93	1.39

The second major hypothesis of the evaluation study concerns the expected "gain" in the mean scores of the experimental group of faculty between the pre-test and the post-test of the PGI. Therefore, the pre-test and post-test personal growth profiles (mean score vectors) were compared to look for statistically significant changes, or "gains," over-all and on particular scales. The results of this comparison are reported in Table 19, following.

Table 19. Analysis of Variance Table for the Comparison of the Experimental Group's Pre-Test and Post-Test Mean Score Vectors on the PGI.

Scale	Univariate F-Ratio	Probability Less Than
1. Self Understanding	30.32	.0001
2. Self-Esteem	14.08	.0003
3. Courage to Fail	9.84	.0020
4. Giving Love	15.09	.0002
5. Accepting Love	8.42	.0042
6. Openness	8.65	.0037
7. Peace of Mind	7.26	.0078
8. Tendency to Trust Others	7.69	.0062
9. Level of Aspiration	6.92	.0093
10. Physical Energy	2.96	.0870
11. Versatility	6.77	.0101
12. Innovativeness	6.47	.0119
13. Expressing Anger	.35	.5573
14. Receiving Hostility	7.14	.0083
15. Clarity in Expressing Thoughts	7.74	.0060
16. Ability to Listen in an Alert and Understanding Way	8.13	.0049
17. Reactions to Comments About or Evaluations of My Behavior	2.06	.1527
18. Tolerance of Differences in Others	10.39	.0016
19. Interest in Learning	4.60	.0333
20. Independence	4.23	.0411
21. Vision of the Future	6.86	.0096

Multivariate Test for Equality of Mean Score Vectors:
$F_{21,154} = 3.2785$, with a probability less than .0022.

Table 19 indicates that the difference between the pre-test and the post-test "personal growth profiles" (mean score vectors on the PGI) is statistically significant beyond the .05 level of probability of a Type I error, the level at which the test for this hypothesis was controlled. It indicates further that this difference is due to differences between the mean scores on five scales which are statistically significant beyond the .0025 level of probability of a Type I error, the level at which the tests of these sub-hypotheses were controlled. The five scales on which the significant "gains" were achieved, listed in descending order, are:

1. Self-Understanding
4. Giving Love
2. Self-Esteem
18. Tolerance of Differences in Others
3. Courage to Fail
6. Openness

The significant "gains" achieved on these five scales are particularly relevant to the objectives of the Communications Skills Workshop which were summarily stated in the first section of this evaluation report.

Although the second major hypothesis of the evaluation study does not anticipate a significant difference between the "gains" achieved by the faculty of one experimental high school compared with those achieved by the faculty of the other, the pre-test and post-test "personal growth profiles" (mean score vectors on the PGI) of the faculties of the two schools, Miramonte and Pacifica, were compared to look for such a difference. The mean scores and standard deviations for the two experimental groups of faculty on the pre-test of the PGI are reported in Table 20, below.

Table 20. Mean Scores and Standard Deviations of Miramonte and Pacifica Faculty on the Pre-Test of the PGI.

Scale	Miramonte		Pacifica	
	Mean	S.D.	Mean	S.D.
1. Self-Understanding	6.05	1.21	6.13	1.30
2. Self-Estee	5.75	1.32	6.00	1.41
3. Courage to Fail	4.97	1.83	4.89	1.84
4. Giving Love	5.90	1.58	6.26	1.69
5. Accepting Love	6.13	1.51	6.02	1.75
6. Openness	4.88	1.98	5.95	1.85
7. Peace of Mind	5.42	1.76	5.94	1.37
8. Tendency to Trust Others	5.73	1.74	6.13	1.64
9. Level of Aspiration	6.13	1.59	6.74	1.41
10. Physical Energy	6.13	1.67	6.60	1.62
11. Versatility	6.02	1.40	6.11	1.54
12. Innovativeness	5.53	1.46	5.87	1.57
13. Expressing Anger	4.82	1.97	5.36	1.80
14. Receiving Hostility	4.33	1.64	4.98	1.38
15. Clarity in Expressing Thoughts	5.17	1.61	5.57	1.61
16. Ability to Listen in an Alert and Understanding Way	6.08	1.43	5.74	1.94
17. Reactions to Comments About or Evaluations of My Behavior	6.40	1.42	6.26	1.33
18. Tolerance of Differences in Others	6.18	1.50	6.36	1.41
19. Interest in Learning	6.82	1.19	6.85	1.47
20. Independence	6.48	1.26	6.26	1.81
21. Vision of the Future	6.23	1.67	6.43	1.61

The mean scores and standard deviations for the two experimental groups of faculty on the post-test of the PGI are reported in Table 21, following.

Table- 21. Mean Scores and Standard Deviations of Miramonte and Pacifica Faculty on the Post-Test of the PGI.

		Miramonte		Pacifica	
	Scale	Mean	S.D.	MEan	S.D.
1.	Self-Understanding	6.86	.97	7.28	1.14
2.	Self-Esteem	6.38	1.11	6.86	1.40
3.	Courage to Fail	5.49	1.43	6.03	1.63
4.	Giving Love	6.70	1.27	7.17	1.18
5.	Accepting Love	6.57	1.32	6.91	1.23
6.	Openness	5.49	1.56	6.78	1.33
7.	Peace of Mind	6.24	1.38	6.33	1.64
8.	Tendency to Trust Others	6.51	1.30	6.61	1.36
9.	Level of Aspiration	6.68	1.20	7.28	1.26
10.	Physical Energy	6.30	1.45	7.22	1.42
11.	Versatility	6.43	1.04	6.78	1.48
12.	Innovativeness	6.03	1.28	6.44	1.30
13.	Expressing Anger	4.83	1.54	5.61	1.79
14.	Receiving Hostility	4.78	1.46	5.69	1.33
15.	Clarity in Expressing Thoughts	6.05	1.29	5.97	1.76
16.	Ability to Listen in an Alert and Understanding Way	6.65	1.18	6.56	1.48
17.	Reactions to Comments About or Evaluations of My Behavior	6.54	.99	6.72	1.58
18.	Tolerance of Differences in Others	6.70	1.00	7.14	1.27
19.	Interest in Learning	7.03	1.23	7.42	1.18
20.	Independence	6.68	1.03	7.06	1.55
21.	Vision of the Future	6.73	1.37	7.14	1.40

The results of comparing the "personal growth profiles" (mean score vectors on the PGI) reported in Table 20; i.e., the pre-test profiles, are reported in Table 22, following.

Table 22. Analysis of Variance Table for the Comparison of the Mean Score Vectors of Miramonte and Pacifica Faculty on the Pre-Test of PGI.

	Scale	Univariate F-Ratio	Probability Less Than
1.	Self-Understanding	.10	.7505
2.	Self-Esteem	.89	.3488
3.	Courage to Fail	.04	.8387
4.	Giving Love	1.26	.2652
5.	Accepting Love	.13	.7234
6.	Openness	6.68	.0112
7.	Peace of Mind	2.77	.0989
8.	Tendency to Trust Others	1.43	.2346
9.	Level of Aspiration	4.31	.0403
10.	Physical Energy	2.07	.1535
11.	Versatility	.10	.7529
12.	Innovativeness	1.34	.2505
13.	Expressing Anger	2.18	.1432
14.	Receiving Hostility	4.68	.0328
15.	Clarity in Expressing Thoughts	1.69	.1961
16.	Ability to Listen in an Alert and Understanding Way	1.08	.3009
17.	Reactions to Comments About or Evaluations of My Behavior	.29	.5910
18.	Tolerance of Differences in Others	.39	.5320
19.	Interest in Learning	.02	.9939
20.	Independence	.49	.4857
21.	Vision of the Future	.36	.5500

Multivariate Test of Equality of Mean Score Vectors:
$F_{21,85} = 1.4648$, with a probability less than .1128.

Table 22 indicates that the difference between the Miramonte profile and the Pacifica profile on the pre-test of the PGI was not statistically significant at or beyond the .05 level of probability of a Type I error, the level at which the test of this hypothesis was controlled. It indicates further that none of the differences between the Miramonte and Pacifica mean scores on any of the scales of the PGI were statistically significant at or beyond the .0025 level of probability of a Type I error, the level at which the tests of the sub-hypotheses were controlled.

The results of comparing the "personal growth profiles" (mean score vectors on the PGI) reported in Table 21; i.e., the post-test profiles, are reported in Table 23, following.

Table 23. Analysis of Variance Table for the Comparison of the Mean Score Vectors of Miramonte and Pacifica Faculty on the Post-Test of PGI.

	Scale	Univariate F-Ratio	Probability Less Than
1.	Self-Understanding	2.78	.1001
2.	Self-Esteem	2.67	.1066
3.	Courage to Fail	2.28	.1352
4.	Giving Love	2.61	.1105
5.	Accepting Love	1.36	.2470
6.	Openness	14.45	.0004
7.	Peace of Mind	.06	.8002
8.	Tendency to Trust Others	.10	.7551
9.	Level of Aspiration	4.38	.0401
10.	Physical Energy	7.59	.0075
11.	Versatility	1.34	.2510
12.	Innovativeness	1.92	.1708
13.	Expressing Anger	3.92	.0516
14.	Receiving Hostility	7.79	.0068
15.	Clarity in Expressing Thoughts	.05	.8214
16.	Ability to Listen in an Alert and Understanding Way	.09	.7674
17.	Reactions to Comments About or Evaluations of My Behavior	.35	.5564
18.	Tolerance of Differences in Others	2.67	.1062
19.	Interest in Learning	1.41	.2391
20.	Independence	1.53	.2199
21.	Vision of the Future	1.60	.2102

Multivariate Test of the Equality of Mean Score Vectors: $F_{21,51} = 1.2878$, with a probability less than .2276.

Table 23 indicates that the difference between the Miramonte profile and the Pacifica profile on the Post-test of the PGI was not statistically significant at or beyond the .05 level of probability of a Type I error, the level at which the test of this hypothesis was controlled. It indicates further that only one of the differences between the Miramonte and Pacifica mean scores on the post-test of the PGI, the difference on the "Openness" scale, was statistically significant at or beyond the .0025 level of probability of a Type I error, the level at which the tests of these sub-hypotheses were controlled.

From these findings, it follows that the "gains" achieved by the experimental group of faculty between the pre-test and the post-test of the PGI were the same for both the Miramonte and the Pacifica faculty, even though it would appear from the fact that they achieved the higher mean scores reported in Tables 20 and 21 that the Pacifica faculty had achieved the greater gains on the majority of the scales. In fact, only the Pacifica faculty's greater "gain" on the "Openness" scale is significant.

Concerning the analysis of "personal growth profiles" (mean score vectors on the PGI), therefore, we conclude that the impact of the Communications Skills Workshop upon the personal growth of its participants, insofar as it can be assessed by "gains" in mean scores on the scales of the PGI, was undifferentiated in its effect upon the Miramonte and Pacifica faculties.

Analysis of Faculty and Student Responses to the Evaluative Questionnaire

In order to assess the impact of the Communications Skills Workshop upon the life and work of faculty and students in the two experimental high schools, Miramonte and Pacifica, one evaluative questionnaire was administered to the faculty and another to a sample of the students in each of these schools after the completion of the workshop. The responses of the faculty to their evaluative questionnaire are reported in Table 24, following; and the responses of the students to their evaluative questionnaire are reported in Table 25, also following. These tables indicate the number and proportion of responses in each of the three response categories: 1) A lot. 2) Some. 3) A little or none.

Table 24. Responses to the Evaluative Questionnaire Made by the Faculty of Miramonte and Pacifica High Schools.

Item No.	Item Statement
1.	It seems to me that the morale of both faculty and students in my school has improved in the last few months.
2.	The atmostphere of my school now seems to me to be more alive and encouraging than it did earlier in the year.
3.	I and my colleagues seem to be making our teaching more relevant to our students than it used to be.
4.	My interest in the school and in my teaching has increased over the past few months.
5.	I and my colleagues on the faculty are more open and responsive to students than we were last semester.
6.	It seems to me that I and my colleagues are more tolerant of differences among students than we were earlier in the year.
7.	I think that I am coming across to my students more clearly now than I did last semester.
8.	My colleagues and I are more inclined to trust students than we were ear in the year.
9.	It seems to me that I and my colleagues express our real feelings more openly now than we used to last semester.
10.	My colleagues and I listen more understandingly to the students in my school than we did last semester.
11.	My colleagues and I are more interested in individual students and their special interests than we were earlier in the year.
12.	The students in my school seem to feel freer about approaching me and my colleagues on the faculty than they did last semester.
13.	It seems to me that I and my colleagues on the faculty are communicating more openly and relating to one another more directly and honestly than we did earlier in the year.
14.	I feel freer about approaching my colleagues on the faculty and discussing things with them than I did earlier in the year.
15.	I think that the communications skills workshop in which my colleagues and I participated last semester has contributed to the changes in my school that I have noted above.

Table 24. (Continued)

Miramonte (N=40)						Pacifica (N=25)					
A lot.		Some.		Little or None.		A lot.		Some.		Little or None.	
#	%	#	%	#	%	#	%	#	%	#	%
3	2.5	20	50.0	17	47.5	2	8.0	11	44.0	12	48.0
4	10.0	20	50.0	16	40.0	2	8.0	13	52.0	10	40.0
4	10.0	24	60.0	12	30.0	3	12.0	15	60.0	7	28.0
6	15.0	21	52.5	13	32.5	4	16.0	12	48.0	9	36.0
6	15.0	27	67.5	7	17.5	6	24.0	14	56.0	5	20.0
5	12.5	24	60.0	11	27.5	6	24.0	11	44.0	8	32.0
5	12.5	23	57.5	12	30.0	1	4.0	20	88.0	12	8.0
1	2.5	24	60.0	15	77.5	1	4.0	14	56.0	10	40.0
8	20.0	22	55.0	10	25.0	7	28.0	10	40.0	8	32.0
2	5.0	26	65.0	12	30.0	4	16.0	16	64.0	5	20.0
6	15.0	24	60.0	10	25.0	1	4.0	17	68.0	7	28.0
5	12.5	22	55.0	13	32.5	3	12.0	14	56.0	8	32.0
7	17.5	25	57.5	8	20.0	4	16.0	13	52.0	8	32.0
8	20.0	22	55.0	10	25.0	6	24.0	9	36.0	10	40.0
9	22.5	21	52.5	10	25.0	4	16.0	13	52.0	8	32.0

Table 25. Responses to the Evaluative Questionnaire Made by Students of Miramonte and Pacifica High Schools.

Item No.	Item Statement
1.	It seems to me that the morale of both students and faculty in my school has improved in the last few months.
2.	The atmosphere of my school now seems more alive and encouraging to me than it did earlier in the year.
3.	The teachers in my school are making the things we study more relevant to me now than they used to.
4.	My interest in school and in my clasees has increased over the past few months.
5.	The faculty at my school seem to be more open and responsive to the students than they were last semester.
6.	It seems to me that the faculty at my school are more tolerant of differences among students than they were earlier in the year.
7.	My teachers come across to me more clearly now than they used to last semester.
8.	The faculty at my school seem more inclined to trust me and other students than they did earlier in the year.
9.	It seems to me that the faculty at my school express their real feelings more openly now than they did last semester.
10.	My teachers now listen to me and other students in a more understanding way than they did last semester.
11.	My teachers seem to be more interested in me and my special interests than they were earlier in the year.
12.	I feel freer about approaching the faculty at my school than I did last semester.

Table 25. (Continued)

Miramonte (N=74)						Pacifica (N=25)					
A lot.		Some.		Little or none.		A lot.		Some.		Little or none.	
#	%	#	%	#	%	#	%	#	%	#	%
2	2.6	30	40.0	42	57.4	2	8.0	9	36.0	14	56.0
9	12.0	24	32.4	41	55.6	5	20.0	8	32.0	12	48.0
11	14.8	40	54.0	23	31.2	1	4.0	13	52.0	11	44.0
15	20.0	32	43.2	27	36.8	6	24.0	12	48.0	7	28.0
3	4.0	33	44.6	38	51.4	2	8.0	11	44.0	13	52.0
3	4.0	29	38.6	42	57.4	6	24.0	10	40.0	9	36.0
6	8.0	34	45.5	34	45.5	4	16.0	14	56.0	7	28.0
8	10.8	36	35.2	40	54.0	2	8.0	12	48.0	11	44.0
9	12.0	34	45.6	31	42.4	7	28.0	10	40.0	8	32.0
5	6.8	30	40.0	39	53.2	1	4.0	18	72.0	6	24.0
6	8.0	27	36/8	41	55.2	5	20.0	9	36.0	11	44.0
13	17.6	33	44.6	28	37.8	5	20.0	11	44.0	9	36.0

Table 24 indicates that, in the view of the Miramonte faculty, the most prominent changes attributable to their participation in the Communications Skills Workshop were those described by Faculty Questionnaire items 5, 13, 9, 11 and 14. Over 75% of the Miramonte faculty noted a lot or some change of these kinds and indicated by their responses to item 15 that their participation in the workshop contributed a lot or some to these changes in their school. The item statements that describe the most prominent changes they noted are as follows:

5. I and my colleagues on the faculty are more open and responsive to students than we were last semester.

13. It seems to me that I and my colleagues on the faculty are communicating more openly and relating to one another more honestly and directly than we did earlier in the year.

9. It seems to me that I and my colleagues express our real feelings more openly now than we used to last semester.

11. My colleagues and I are more interested in individual students and their special interests than we were earlier in the year.

14. I feel freer about approaching my colleagues in the faculty and discussing things with them than I did earlier in the year.

The item statements that describe the features of their school that the Miramonte faculty believed were least influenced by their participation in the workshop are as follows:

1. It seems to me that the morale of both faculty and students in my school has improved in the last few months.

2. The atmosphere of my school now seems to me to be more alive and encouraging than it did earlier in the year.

8. My colleagues and I are more inclined to trust students than we were earlier in the year.

Table 24 also indicates that the faculty at Pacifica took a slightly different view of the most prominent changes in their school attributable to their participation in the workshop. Over 90% of them noted a lot or some change as that described by item 7, and 80% of them noted a lot or some change described by items 5 and 10. The item statements that described these most prominent changes in their school are as follows:

7. I think that I am coming across to my students more clearly now than I did last semester.

5. I and my colleagues on the faculty are more open and responsive to students than we were last semester.

10. My colleagues and I listen more understandingly to the students in my school than we did last semester.

The item statements that describe the features of their school that the Pacifica faculty felt were least affected by their pariticipation in the workshop are as follows:

1. It seems to me that the morale of both faculty and students in my school has improved in the last few months.

14. I feel freer about approaching my colleagues on the faculty and discussing things with them than I did earlier in the year.

8. My colleagues and I are more inclined to trust students than we were earlier in the year.

2. The atmosphere of my school now seems to me to be more alive and encouraging than it did earlier in the year.

Note that items 1, 2 and 8 also described the features of their school that the Miramonte faculty felt were least affected by their participation in the workshop. Note, too, that item 14 describes one of the least changed features of Pacifica and one of the most prominently changed features of Miramonte.

Table 25 indicates that the students at Miramonte High School noted prominent changes in the features of their school described by items 3, 4 and 12. The item statements describing these changes noted by about 65% to 70% of the students are as follows:

3. The teachers in my school are making the things we study more relevant to me now than they used to.

4. My interest in school and in my classes has increased over the past few months.

12. I feel freer about approaching the faculty at my school than I did last semester.

The item statements describing the features of their school that the Miramonte students regarded as having been changed least during the period of the workshop are as follows:

6. It seems to me that the faculty at my school are more tolerant of differences among students than they were earlier in the year.

1. It seems to me that the morale of both students and faculty in my school has improved in the last few months.

2. The atmosphere of my school now seems more alive and encouraging to me than it did earlier in the year.

According to Table 25, the students at Pacifica High School noted most prominently changes in the features of their school described by items 10, 4 and 7. The item statements describing these changes, noted by over 70% of the students sampled are as follows:

10. My teachers now listen to me and other students in a more understanding way than they did last semester.

4. My interest in school and in my classes has increased over the past few months.

12. I feel freer about approaching the faculty at my school than I did last semester.

The item statements describing the features of their school that the Pacifica students regarded as having been least changed during the period of the workshop are as follows:

1. It seems to me that the morale of both students and faculty in my school has improved in the last few months.

2. The atmosphere of my school now seems more alive and encouraging to me than it did earlier in the year.

5. The faculty at my school seem to be more open and responsive to the students than they were last semester.

Note that both the faculty and students of Miramonte feel that the faculty members became more approachable during the period of the workshop, and that the morale and atmosphere of the school, which they regarded has having already been quite congenial, were changed only a little or none during this period.

Note, too, that both the faculty and students of Pacifica feel that the teachers are coming across more clearly to their students than they did previous to the workshop, and that the teachers listen more understandingly to their students than they did prior to their participation in the workshop. Again, both faculty and students agree in noting that the morale and atmosphere of their school were affected only a little or not at all by the faculty's participation in the workshop, probably because they were already reasonably high on the view of both groups.

Finally, note that the students at both Miramonte and Pacifica indicated that their interest in school and in their classes had increased over the period of the workshop. From this it would seem that, in both of the experimental high schools, faculty participation in the Communications Skills Workshop had a desirable effect upon their teaching and their students' attitudes toward school and learning.

Summary

In order to assess the effectiveness of the Communications Skills Workshop, three major hypotheses concerning the achievement of its objectives were formulated and tested. In this summary and conclusion of the evaluation study, each of these hypotheses will be restated and its acceptability argued on the basis of the evidence presented in the findings of the study.

The first major hypothesis states:

> There will be a statistically significant difference between the pre-test and the post-test interpersonal values profiles of both the faculty and the students in the two experimental high schools.

Examination of the "interpersonal values profiles" (mean score vectors on the "Survey of Interpersonal Values," or SIV) reported in Table 4 and analyzed in Tables 5 through 8 reveals that this hypothesis is not acceptable in its entirety, or even for the most part. Table 5 indicates that none of the differences between the four pre-test and the four post-test mean score vectors on the SIV compared over-all is statistically significant. Table 6 indicates that none of the differences between the two faculty pre-test and the two faculty post-test mean score vectors on the SIV is statistically significant. Table 7 indicates that none of the differences between the two student pre-test and the two student post-test mean score vectors on the SIV is statistically significant. Table 8, however, indicates that the difference between the pre-test and post-test mean score vectors of the students at Pacifica High School is statistically significant. It indicates further that this difference is due to differences between these students' mean scores on two scales of the SIV, "Support" and "Leadership," which were statistically significant. This "gain" was interpreted to signify a change in these students' "interpersonal values profiles" from a preference for (in the terms by which Gordon defines the "Support" and "Leadership" scales) "being treated with kindness and consideration, being treated with understanding, receiving encouragement from other people" to a preference for "being in charge of other people, having authority over others, being in a position of leadership and power." Since neither the pre-test nor the post-test mean scores on these two scales was an extreme score (that is, above the 75th percentile or below the 25th percentile in the table of national norms for high school students' mean scores on the SIV), which would have indicated the possibility of inter- or intra-personal conflict between these two values or among the six values assessed in the profile, it was not possible to interpret further the "gain" evidenced by analysis of these scores.

The second major hypothesis of the evaluation study states:

> There will be a statistically significant difference between the pre-test and the post-test "personal growth characteristics" of the faculty in the two experimental high schools.

Examination of the "personal growth profiles" (mean score vectors on the "Personal Growth Inventory," or PGI) reported in Table 18 and analyzed in Tables 19 reveals that this hypothesis is entirely acceptable as stated. Table 19 indicates that the difference between the pre-test and the post-test "personal growth profiles" of the faculty of the two experimental high schools (their mean score vectors on the PGI) is statistically significant. It also indicates that this difference is due to differences between the mean scores on five scales of the PGI which are also statistically significant:

1. Self-Understanding
4. Giving Love
2. Self-Esteem
18. Tolerance of Differences in Others
3. Courage to Fail
6. Openness

The significant "gains" achieved by the experimental group of faculty on these five scales (listed above in descending order of magnitude) are particularly relevant to the objectives of the Communications Skills Workshop which are summarized in the first section of the evaluation study.

The third major hypothesis of the evaluation study states:

> There will be a statistically significant difference between the "interpersonal values profiles" of the faculty and those of the students in both of the experimental high schools on both the pre-test and the post-test, but this difference will diminish and the faculty and student profiles will become more nearly congruent on the post-test.

Examination of the pre-test and post-test "interpersonal values profiles" (mean score vectors on the SIV) of faculty and students that are reported in Table 4 and analyzed in Tables 12 through 14 reveals that this hypothesis is acceptable only with certain qualifications. Table 12 indicates that, on both the pre-test and the post-test, there was a statistically significant difference between the "interpersonal profiles" of the faculty and those of the students in the two experimental high schools. It indicates further that this difference is due to differences between their respective mean scores on two scales of the SIV: "Conformity" and "Independence." More specific two-way comparisons of faculty and student profiles, made in order to find more specifically meaningful differences between them and to test the hypothesis that these differences diminished on the post-test, revealed that the differences between faculty and student profiles were due to differences in only one of the two experimental high schools: Miramonte. No statistically significant differences were found between the profiles of faculty and students at Pacifica High School, neither on the pre-test nor on the post-test. Table 13 indicates that, on the pre-test of the SIV, the difference between the "interpersonal values profiles" of Miramonte faculty and Miramonte students was statistically significant, and that this difference was due mainly to the difference between faculty and student mean scores on the "Conformity" scale of the SIV. Table 14 indicates that, on the post-test of the SIV, the difference between the "interpersonal values profiles" of the Miramonte faculty and the Miramonte students was not statistically significant, although the difference between faculty and student mean scores on the "Conformity" scale remained statistically significant. (In fact, the difference between faculty and student mean scores on the "Conformity" scale was greater on the post-test than on the pre-test.)

The third hypothesis assumes that one effect of the faculty's participation in the Communications Skills Workshop could be improved communications between faculty and students, such that the differences between their respective "interpersonal values profiles" would be diminished and greater congruence between them would be evident in a comparison of the post-test mean score vectors on the SIV. Although it was found that the difference between Miramonte faculty and students' profiles on the pre-test did, in fact, diminish to insignificance on the post-test, this finding was not interpreted to mean that all of the basis for interpersonal conflict between faculty and students in Miramonte High School had been elimin ted by the faculty's participation in the workshop. Even though the profiles of Miramonte faculty and students are more nearly congruent on the post-test than they were on the pre-test, their mean scores on the Conformity scale were even further apart on the post-test than they were on the pre-test. Indeed, the Miramonte students' mean score on the "Conformity" scale, which was already extremely low on the pre-test (below the 25th percentile on the national norms for high school students' mean scores on the SIV), it was even lower on the post-test and differed even more greatly from the faculty's mean score, which did not change significantly. But it was not possible to interpret further the impact of the Miramonte faculty's participation in the workshop upon the "non-conformist" values of Miramonte students.

In order to assess further the impact of the Communications Skills Workshop upon the life and work of faculty and students in the two experimental high schools, a fifteen-item evaluative questionnaire was administered to the faculty and a twelve-item evaluative questionnaire was administered to a sample of students in each of the two schools after the completion of the workshop. Examination of responses to these evaluative questionnaires reported in Table 24 (faculty) and Table 25 (students) reveals that the impact was considerable. Both the faculty and the students of Miramonte High School felt that the faculty members became more approachable during the period of the workshop and that the morale and atmosphere of the school, which they apparently regarded as having been already quite congenial, were changed only a little or not at all. Both the faculty and students of Pacifica High School agreed in their feeling that the teachers were coming across more clearly to their students than they did previous to the workshop, and that the teachers listened more understandingly to their students than they did prior to their participation in the workshop. Finally, the students at both Miramonte and Pacifica High Schools indicated by their responses to the evaluative questionnaire that their interest in school and in their classes had increased over the period of their teachers' participation in the workshop.

Conclusion

From the findings summarized above, the evaluation study reaches the following conclusions regarding the effectiveness of the Commnications Skills Workshop:

1. Assessments of the workshop's effectiveness attempted by pre- and post-testing experimental group faculty and students with Cordon's "Survey of Interpersonal Values" did not reveal statistically significant "gains" in the dependent variable termed "interpersonal values" attributable to faculty participation in the workshop. Either the workshop experience did not make a measurable impact upon participants' "interpersonal values," as these are operationally defined by scores on the SIV, or the SIV does not take reliable and valid measures of changes in "interpersonal values" attained over the short period of four months.

2. Assessments of the workshop's effectiveness attempted by pre- and post-testing experimental group faculty with Blansfield and Lippett's "Personal Growth Inventory" revealed statistically significant "gains" in the dependent variable termed "personal growth characteristics" attributable to faculty participation in the workshop.

3. The attribution of significant "gains" on either of the first two dependent variables to faculty participation in the workshop must remain entirely conjectural because no evidence in support of a more substantial argument could be gathered by pre- and post-testing a control group of faculty and students as had been planeed in the original research design for the evaluation study.

4. Assessments of the workshop's effectiveness attempted by ex post facto administration of an evaluative questionnaire to experimental group faculty and another to a sample of experimental group students revealed that, in both of the experimental high schools, Miramonte and Pacifica, faculty participation in the workshop had a desirable effect upon their teaching and upon their students' attitudes toward learning in school, an effect to which both teachers and students could and did testify with a considerable degree of agreement between and among them.

PART VI

THE OVERALL FINDINGS

The Overall Findings

ESEA Title III Project Number 5134, a three-year grant, entitled, "County-Wide Direction to Family Life Education, 1968-69--1970-71," centered on inservice education to better prepare teachers in the elementary and secondary schools of Contra Costa County, California, to offer instruction in Family Life Education with an emphasis on healthy sexuality.

The Setting. The $146,387.90 grant was administered by the Contra Costa County Department of Education and the inservice educational activities it sponsored were offered to teachers who were employees of separate and autonomous school districts which looked to the County for special consultative and supplementary services.

Project Number 5134, was instituted at what turned out to be the most inopportune time to promote the teaching of sex education in the public schools. The years 1968-69--1970-71 were a time of tremendous turmoil over the issue of sex education at national, state, and local levels, threatening the very existence of the project from day-to-day and serving as a constant threat to the informal relationship between the County and the independent school districts on whose cooperation the Project depended.

Five separate and specially planned Family Life Education Workshops, similar in overall purpose, but with differing emphases in content and organization, were offered in the spring and summer of 1968, winter and summer of 1969, and fall of 1970 for 404 teachers. The 30 hours of instruction yielded two semester units of college credit.

The Sample. A total of 515 teachers and 1,110 students were the subjects in this evaluation study of the Project, as shown in Table 1. The evaluation research was designed and conducted by a team of research specialists from the University of California, Berkeley.

Table I

Number of Subjects

	Number of Teachers			Number of Students		
Program	Total	Experimental	Control	Total	Experimental	Control
I (Sp '68)	114	70	44			
II (Su '68)	80	80	0			
III (W '69)	77	50	27	569	450	119
IV (Su '69)	139	99	40	335	335	0
V (F '70)	105	105	0	206	125	81
Total	515	404	111	1,110	910	200

The original thrust of the investigation was a replication study using different groups of subjects with each training program. Within certain limits of the political realities surrounding the teaching of Family Life Education, this was done in the first four programs. Based on the results of the evaluation of these workshops, the fifth program was different as was the evaluation design.

Assumptions. A major assumption of the investigation was that teacher training does have an impact, i.e., teachers do change, that these changes can be adequately measured by pre and posttesting the teachers and their students, and that these changes are most apparent in the knowledge and skill domains, but also may occur in the attitude and personality domains. Thus a basic question to which the study addresses itself is: Does teacher training train teachers?

Methodology. Fourteen instruments were used in the evaluation study and appear in a separate volume, The Appendices. Seven were developed by the evaluation team and first used in a Ph.D. study.* These include the Demographic Questionnaire, the Family Life Attitude Inventory, Family Life Education Q Sort, Family Life Knowledge Inventory (grades 5-6, 7-8, 10-12), Student Evaluation of the Family Life Education Program, the Family Life Evaluation Teacher and Student Questionnaires. Seven were standardized instruments as follows:

McHugh Sex Knowledge Inventory
Omnibus Personality Inventory
Mooney Problems Check List
Weichmann Family Life Attitude and Knowledge Inventory
Gordon Personality Inventory (including the Gordon Personality Profile)
Gordon Survey of Interpersonal Values
Blansfield and Lippett Personal Growth Inventory

The statistical design was multivariate analysis of variance for which the CALIF program was used, an adaptation of the NYBMUL. The data gathered by the Family Life Education Q Sort were analyzed by the computer programs in the BCTRY system.

Findings. There were five sets of hypotheses in the original evaluation design at the time the Project was conceived (p11-13). However, as soon as the Project became operational, it became evident that separate sets of hypotheses had to be formulated and tested for each of the five programs (p 15-17, 106, 151-152, 226, and 273).

One set of dependent variables was the dimension of personality characteristics. We wondered if the special training in Family Life Education with an emphasis on healthy sexuality would bring about significant changes in the personality characteristics of the teachers. The answer was "No," whether measured by the Omnibus Personality Inventory (p 103, 149, and 264), the Gordon Personality Inventory (including the Gordon Personality Profile (p 306), or the Gordon Survey of Interpersonal Values (p 307). The one exception to this finding was with the Personal Growth Inventory wherein the experimental group of teachers (those in the special training program) achieved statistically significant gains on eight of the 21 scales. This occurred in the fifth training program, perhaps because it was extended over a six-month period whereas the training in the other four programs was over a two-to-three-month period.

---

*McCarn, Jerry. In-Service Teacher Training: An Evaluation. Unpublished Ph.D. Dissertation, University of California, Berkeley, 1969.

Another set of dependent variables was the dimension of attitude. We wondered if the special training would bring about a change in the teachers' attitudes toward Family Life Education with an emphasis on healthy sexuality as a school subject which they would be expected to teach. The answer was "Yes," whether measured by the Family Life Education Q Sort (p 104, 149), the Family Life Attitude Inventory (p 104 and 149), the Weichmann Family Life Attitude and Knowledge Inventory (p 266), or the Family Life Education Teacher Questionnaire (p 267).

A third set of dependent variables was the dimension of knowledge. We wondered if the special training would bring about an increase in the teacher's knowledge and understanding of Family Life Education with an emphasis on healthy sexuality as a school subject which they would be expected to teach. We speculated that an increase was likely to occur even though the chief purpose for the special workshops was attitudinal rather than knowledge changes. But we knew the teachers would be exposed to some new knowledge in the workshops and that they would be learning content when they prepared to teach units of courses in Family Life Education. The answer was "Yes." There were statistically significant gains in knowledge and understandings as measured by McHugh's Sex Knowledge Inventory (p 103, 149, 221), and the Weichmann Family Life Attitude and Knowledge Inventory (p 265).

To summarize, changes were hypothesized in three groups of variables -- knowledge, attitude, personality. In two of them -- knowledge and attitude, statistically significant changes were found, in the other, personality characteristics, none were found. The latter we interpret to mean that either no changes occurred in the personality characteristics of the teachers or those changes that did occur could not be measured by the standardized, hard data, instruments the evaluation team chose to use.

The research design included four _independent_ variables. These were _experimental condition_ (the teacher given the special training vs. those not trained), _urban-rural_ (teachers from schools in Contra Costa County serving rural or urban communities), and _elementary-secondary_ (teachers instructing students in grades K-6 or 7-12). The fourth independent variable hypothesized was with regard to _students_ -- did their knowledge and understanding of sex education increase as a result of the instruction they received from the teachers who had participated in the FLE Workshops?

One finding was that there were no statistically significant differences between urban and rural teachers in the first two programs (spring and summer, 1968 (p 103 and 149). Consequently this variable was not tested in the three subsequent programs. It had been assumed that secondary school teachers who were more subject matter conscious to be different from elementary school teachers who traditionally are more student-centered. The evaluation team sought to measure this difference on four occasions (programs I, II, III, and IV). The finding was no statistically significant differences between elementary and secondary school teachers before or as a result of the special training each received. Since the only measured variation among elementary and secondary school teachers was their participation in the special training workshops, the conclusion was that the special training in sex education accounted for the measured difference.

Having arrived at this finding after four training programs, the evaluation team speculated that there might be different results if the training were more intensive and extended over a longer period of time. Hence the format of the fifth program was changed to include training over six months rather than a two-to-three-month period, and the teachers involved represented the staff and students of two high schools (the experimental group) and the staff and students of another comparable high school (the control groups). While the E and C condition was maintained for the school staffs, it was lost when the time came to test the C students because the school administration simply decided at the last minute not to cooperate. However, even though unable to obtain comparable data from the C student group, the responses from the E students overwhelmingly substantiated the finding that they were aware of changes in their school, their teachers, and themselves as a result of the staff's participation in the special training workshop (p 309). Also, without a control group of faculty, again because of last minute unwillingness to cooperate, there was overwhelming evidence from an analysis of the evaluation questionnaires that the trained group of teachers perceived changes in their school, their colleagues, themselves, and their students which they, the teachers, were able to attribute directly to their participation in the Family Life Education Workshop (p 309).

Undoubtedly, the most significant single finding on the impact of the special training workshops came from the evaluation of program III (Winter '69) where statistically significant gains were found among C and E students, in favor of knowledge gained by the E students. The greatest gain was by E students whose I.Q.'s were one standard deviation below the mean I.Q. for the C students (p 221).

Implications. Research evaluation of curricular experiences based solely on analysis of strictly hard data poses grave difficulties for the investigator who conducts a study of the impact of a training program. One obstacle has to do with finding appropriate standardized instruments designed to measure short-term but nevertheless important and deep changes. Having finally found some apparently appropriate instruments, another difficulty is the inability to complete the study as planned because of the politics of the subject matter or the school district. To this obstacle, in the teaching of a controversial subject like sex education in autonomous and independent school settings, must be added the increasing present-day rebellion of both teachers and students to any form of standardized testing.

From the experience of evaluating Project Number 5134 over a three-year period, the investigators suggest that, from a methodological point-of-view, there is a "new" way to go. This "new" way is the use of experts in college or university research as consultants to groups of elementary and secondary school teachers so that the teachers can carry out their own research and evaluation activities and thus themselves measure the results of their own inservice training and its impact on themselves and their students.

There is an obvious larger implication here--"el-hi" teachers themselves need to have training in research methods so they can evaluate the results of teacher education on themselves, their colleagues, their schools, and their students performance. As long as school staffs see university or college researchers as outsiders, they will continue to be reluctant to serve as willing subjects and continue to resist the use of their students as subjects.

This is but another reason* why teacher education needs to be carried on in the public schools so that college and university faculties and local elementary and secondary school faculties are seen as _collaborators_ and _collegues_ working together for a common cause.

---

*For other reasons see James C. Stone, _Teachers for the Disadvantaged_, Chap. 6, S. F. Jassey-Bass, 1969; Committee for Economic Development, Report #33, _Resources for Urban Schools_, Chap. 3; and B. O. Smith (editor) _Teachers for the Real World_, Wash., D.C.: American Assoc. of Colleges for Teacher Education, 1969.